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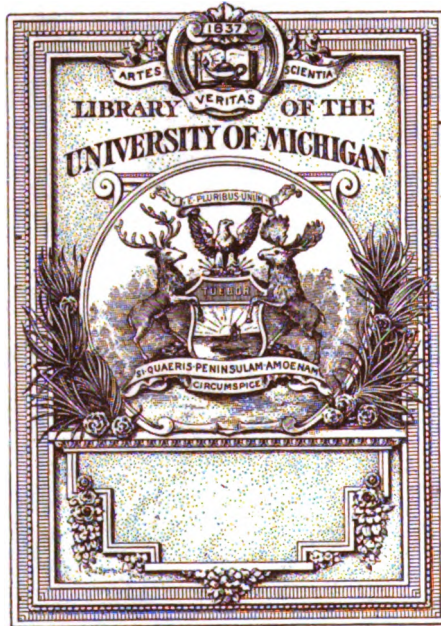
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# *Brooklyn Medical Journal*

Medical Society of the County of Kings, Brooklyn



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Speakers at the Laying of the Corner-stone.

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## LAYING OF THE CORNER-STONE OF THE NEW BUILDING OF THE MEDICAL SOCIETY OF THE COUNTY OF KINGS.

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EDITED BY JOSEPH H. RAYMOND, M.D.

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At three o'clock in the afternoon of Thursday, November 10, 1898, there gathered in the armory of the 23d Regiment, on Bedford avenue, at the corner of Pacific street, Brooklyn, a large number of the medical profession and of invited guests to listen to the address of distinguished speakers and to witness the laying of the corner-stone of the new building of the County Society directly opposite the armory. It was the intention of the committee of the day to have all the exercises take place in the open air, but the inclemency of the weather rendered that impossible, and through the courtesy of the officers of the 23d Regiment their armory was placed at the disposal of the committee and its guests. In so vast an auditorium the audience did not seem to be large,

and yet had the exercises been held in an ordinary lecture-hall, there would have been but few seats unfilled.

The following is the program :

### LAYING OF THE CORNER-STONE,

3 P.M., November 10, 1898.

NEW BUILDING OF THE MEDICAL SOCIETY OF THE COUNTY OF KINGS,

Grant Square, Brooklyn.

1822—1898.

#### ORDER OF EXERCISES.

1. Opening of the Meeting . . . . . Frank E. West, A.M., M.D.
2. Invocation . . . . . Richard S. Storrs, D.D., LL.D.  
President of the Long Island Historical Society.
3. The Society's Work . . . . . George McNaughton, M.D.
4. Laying of the Corner-Stone . . . . . Joseph H. Hunt, M.D.  
President of the Society.
5. Address . . . . . Seth Low, LL.D.  
President of Columbia University.
6. Benediction . . . . . Rev. Sylvester Malone, S.T.D.  
Regent of the University of the State of New York.

#### COMMITTEE ON NEW BUILDING.

Wm. Maddren, Chairman.

David Myerle, Secretary.

Francis H. Stuart, Treasurer.

W. S. Applegate.	J. T. Duryea.	H. R. Maine.
F. D. Bailey.	L. M. Dusseldorf.	E. H. Mayne.
F. Baldwin.	G. A. Evans.	H. C. McLean.
C. F. Barber.	H. A. Fairbairn.	W. Moitrier.
E. H. Bartley.	L. M. Fleming.	D. Myerle.
W. N. Belcher.	S. H. Gardner.	H. Noss.
H. Bender.	W. J. Gilfillan.	G. B. O'Sullivan.
S. H. Benton.	J. O. F. Hill.	W. L. Rickard.
J. B. Bogart.	W. M. Hutchinson.	T. Schenck.
W. Browning.	J. W. Hyde.	W. H. Skene.
W. W. Browning.	R. Jeffery.	H. C. O. Steink.
A. T. Bristow.	J. A. Jenkins.	J. H. Sterling.
A. H. Brundage.	J. J. Keyes.	F. H. Stuart.
C. W. Brunner.	J. L. Kortright.	P. H. Sturges.
H. B. Delatour.	G. E. Law.	R. L. Van Kleeck.
W. A. DeLong.	A. W. Lawrence.	J. Von Glahn.
A. J. Dower.	W. Maddren.	A. A. Weber.
Z. F. Dunning.		J. M. Winfield.

## LAYING THE CORNER-STONE.

3

### COMMITTEE OF THE DAY.

F. E. West, Chairman. Wm. Browning, Secretary.  
Geo. McNaughton. Wm. Maddren. Chas. Jewett.  
The Building Committee (Executive).  
Jos. H. Hunt,  
President of the Society.

### ENTERTAINMENT COMMITTEE.

J. E. Sheppard. J. P. Warbasse. F. Baldwin.

### OFFICERS FOR 1898.

#### THE COUNCIL.

President, Joseph H. Hunt, M.D., 1085 Bedford Avenue.  
Vice-President, Elias H. Bartley, M.D.  
Secretary, David Myerle, M.D., 572 Bedford Avenue.  
Asst. Secretary, Robert J. Morrison, M.D.  
Treasurer, Charles N. Cox, M.D., 257 Jefferson Avenue.  
Asst. Treasurer, O. A. Gordon, M.D.  
Librarian, William Browning, M.D., 54 Lefferts Place.

#### CENSORS.

J. M. Winfield, M.D., Senior Censor.  
James L. Kortright, M.D. J. M. Van Cott, M.D.  
H. B. Delatour, M.D. H. A. Fairbairn, M.D.

#### TRUSTEES.

Frank E. West, M.D., Chairman.  
Walter B. Chase, M.D. Calvin F. Barber, M.D.  
Charles Jewett, M.D. George McNaughton, M.D.

#### STANDING COMMITTEES.

Committee on Membership: Chairman, Wm. Nathan Belcher, M.D.  
Committee on Directory for Nurses: Chairman, Henry A. Fairbairn, M.D.  
Committee on Entertainment: Chairman, J. E. Sheppard, M.D.  
Historical Committee: Chairman, Homer L. Bartlett, M.D.  
Committee on Legislation: Chairman, James M. Winfield, M.D.  
Committee on Public Health: Chairman, Z. Taylor Emery, M.D.

Frank E. West, A.M., M.D., President of the Board of Trustees, acted as chairman. In opening the meeting he said:

"Ladies and Gentlemen: We have gathered this afternoon for a ceremony which several of us have looked forward to for many a day. The road we have traveled has been difficult and full of many discouragements, but we have to-day reached the point where we are ready to place the corner-stone of our new building. The work accomplished thus far has been against considerable odds, and from the storm to-day it might appear on superficial

thought that the omens are still against us. Such, however, is not the fact. We are fortunate in several respects. We are fortunate in the friends we have with us to assist in these exercises. Again this seems to be a year when the soldier is in the ascendant, and the military has come to our rescue. Through the kindness of Colonel Smith of the 23d Regiment we have shelter in this armory, and the elements are placed at our feet. We are fortunate, and to-day begins the foundation of a Free Medical Library Building, which we feel confident will be an ornament to the neighborhood, a great help to the medical profession, and a blessing to the city.

"The exercises will be opened with prayer by the Rev. Dr. Storrs."

Richard S. Storrs, D.D., LL.D., President of the Long Island Historical Society, then offered the following invocation:

"Almighty God, most merciful Father, who art the author of our life, who ordainest the body and formest the spirit of man within him, and who doth knit together body and spirit in mysterious union till death divides them; we bless and praise Thee for Thy Divine care for even the outer framework which decays; for its marvellous constitution; for the helps and remedies which Thou, in Thy foreseeing wisdom hast provided, when it is smitten by adverse force; for the patience and skill of those whom Thou dost move and prepare to minister to it in weakness and in pain.

"We humbly pray that these, Thy servants, to whom this house which they are building is to be a home for larger instruction in their benign art, may feel that in all their work of succor and relief to those in need, the blessing of God abides upon them. As they strive to follow in office so may they joyfully follow in spirit Him who of old healed the sick, gave freedom to the lame, and sight to the blind, and released from suffering those visited thereby. In the impulse of a true consecration to Him, and to His continuing work on earth as committed to them, may they serve before Him in the ministry to which He has called them, and be conscious always of His heavenly acceptance and reward.

"May Thy favor attend the Society of Thy servants, which is rearing this comely and stately house for public uses gracious and wise. May it long continue, increasing in fame and enriched in resources, to aid to a larger knowledge and a finer skill those who in turn shall impart of its benefits to them that are in need.

"May Thy blessing be upon all of us who are here assembled. In the time of our health, make us ever grateful and faithful to Thee. In the time of our sickness, be pleased in Thy providence

to visit and relieve us by the hands of those who shall minister, comfort, and succor from Thee, by Thy Divine grace. And when the death cometh, which is appointed unto all, in Thine infinite love grant us an abundant entrance into the everlasting kingdom of our Lord and Saviour Jesus Christ, and unto the Father, the Son, and the Holy Ghost shall be the praise forevermore, Amen."

In introducing the next speaker, the Chairman said:

"For several years all have realized that our old home was wholly inadequate to the needs of the Society. There was not room to accommodate those who would attend its scientific meetings and we had no space for its growing library. Many have helped in the effort to secure a better building, but there is one man especially who has worked in season and out of season. He never was so busy that he would not give time and energy for this work. I call upon Dr. George McNaughton to tell you of the Society's work."

George McNaughton, M.D., was the President of the Medical Society of the County of Kings during the years, 1894, 1895, 1896, and 1897, the longest term of service in the history of the Society, except that of the second President. During his presidency and by him the necessity of a new building was prominently brought to the attention of the Society and the first steps were taken to secure it, and the project brought to a successful conclusion. In his address on the Society's work he said:

"The ceremony of the laying of a corner-stone of a building which is intended for many years to be the home of an organization certainly marks an epoch in its history. It is, therefore, quite proper on this occasion to review its past, consider its present, and discuss the probabilities of its future.

"Seventy-six years ago six physicians met in the village of Flatbush, then the county seat, to consider the feasibility of organizing a County Medical Society in compliance with the organic law of incorporation of county medical societies in the State of New York. This meeting was adjourned to convene in the village of Brooklyn, where the organization was finally completed.

"The meetings of the Society in its early days were held quarterly, the place of meeting alternating between the Auld Lang Syne Inn, kept by William Stevenson, which was located on Fulton street near Nassau, and a similar place kept by Simon Voiz, in Flatbush. Very likely there were other places of meeting dur-

ing the first twenty-two years of its existence, but there is no evidence at hand to verify this.

"From 1844 to 1865, inclusive, the Society held its meetings in the Brooklyn Institute. Then the place of meeting was changed to the Phenix Building, 16 Court street, thence to the rooms of the Hamilton Library Association, at 44 Court street. In March, 1875, we became tenants of Captain Charter's at Everett Hall, also known as the Presbyterian Rooms, at 398 Fulton street.

"The first standing Committee on Library was appointed April 14, 1845, and the first librarian was Dr. George I. Bennett, in 1859. During this period the accession was small. The first purchase of which there is a record was of three volumes of the "Transactions of the Medical Society of the State of New York." On May 20, 1874, a bookcase was purchased by the late Dr. W. W. Reese, who was then librarian, and from this dates the modern growth of the library. Up to 1887 this Society had no permanent quarters of its own. At the January meeting of the year mentioned, the question of a permanent home for the Society was formally presented and a committee consisting of Drs. William Thallon, Joseph H. Hunt, and A. Ross Matheson was appointed to solicit subscriptions, and at the regular meeting held one month later this committee reported subscriptions to the amount of \$5300, all of which with the exception of \$250 came from members of the Society. This amount, with the permanent funds on hand, aggregated \$7600. The trustees, after much consideration, invested in property known as 356 Bridge street. This property was not to the entire satisfaction of the gentlemen most active in securing it, but it was 'the best that could be done under the circumstances.' Thus modestly did one of the members of the committee express it. Nevertheless the purchase of this property was the most conspicuous and wholesome act ever performed for the Society, for from that date the organization took new life. The membership increased and the accessions to the library were greater than ever before. Order and arrangement of the material were instituted, thereby increasing its usefulness. Our old house at 356 Bridge street will always be remembered with satisfaction by those who have watched our development, and were privileged to take part in the proceedings of the Society, whether scientific or executive.

"The directory for nurses was established in 1885, at the suggestion of Dr. Francis H. Stuart. This branch of our work was organized for the purpose of supplying nurses at short notice, and is still maintained, serving a humane public purpose.

"From 1858 until 1865 the Society published its transactions in pamphlet form. From 1876 to 1884 a small monthly periodical called the *Proceedings* was published and distributed among the members of the Society. It contained an account of the scientific and executive work of the organization.

"The first copy of the BROOKLYN MEDICAL JOURNAL was issued January 1, 1888. It is a monthly periodical, containing the transactions of the Society, and was an enterprise undertaken soon after the purchase of the Bridge street property. Our journal has grown with the other departments of our work, and takes high rank among the many similar publications of this country.

"In 1887, at the time of the purchase of the Bridge street property, the membership was 317, and at the time of its disposal it had grown to 650. The library increased at a much faster ratio; in 1886 there were 2199 volumes; at the present time there are more than 14,000 volumes on hand, without counting duplicate stock.

"It will be seen that quarters only extensive enough to accommodate the conditions of the organization in 1887 were soon outgrown by the increase in the Society's membership, and the large accessions to the library. The first warning of the inadequacy of our old quarters was given by Dr. Joseph H. Hunt, in his final annual report as librarian in 1891; and his successor in office, Dr. William Browning, repeatedly stated in his reports that not only was the place too small, but it was unfit, because it was not fire-proof. We were told of the increasing value of our library, and the impossibility of replacing some of the books if they were lost, and also the fact that bequests of books were withheld because ours was not a fireproof building.

"At the April meeting in the year 1894 the President, having in mind the urgent need of proper quarters, utilized an old privilege and in an address restated to the Society the reports of the librarians, and suggested that some immediate measures be taken to furnish the Society with a more desirable home. As a result, a committee was appointed to consider the recommendations of the President. At the next session the committee reported and recommended the appointment of two members from each ward, the whole to constitute a Committee on New Building, their function being to devise ways and means, to consider site, building, etc., and everything pertaining to the same. Said committee was to cooperate with the Board of Trustees and report



from time to time to the Society. The committee was appointed and Dr. William Maddren was made its chairman, Dr. David Myerle, secretary, and Dr. Francis H. Stuart, treasurer. Efforts were at once commenced, and, despite the financial depression which affected the whole country, and particularly the medical fraternity, a considerable amount of money was subscribed, every dollar of which represented a personal sacrifice on the part of the member making the subscription.

"The question of a site proved a difficult one to settle; finally it was determined to ask each member of the Society to express his preference by vote. Two locations were principally considered—one designated as Flatbush avenue and Fulton street and the other in what is known as the Bedford district. No satisfactory location could be found near the first mentioned, therefore this site was, by unanimous vote of the committee, selected and purchased. An Executive Building Committee, consisting of Dr. Frank E. West, Chairman; Dr. William Browning, Secretary; Dr. Charles Jewett, Dr. William Maddren, and Dr. George McNaughton, was selected to represent the original Building Committee and the Board of Trustees in matters pertaining to the new building. In the spring of 1897 a consulting architect was selected and a general invitation was extended to architects to submit plans in competition. As a result about twenty were presented. After careful consideration and examination the plans of Waid and Cranford were unanimously accepted. The work of excavation and construction was commenced as soon as our finances would permit, and we are here assembled for the purpose of laying the corner-stone of a building which means so much to the medical profession of this island and the public at large.

"The mistake has been made of regarding our proposed building as a medical club-house, with some of the features of a social organization. Let it be understood that this is a misrepresentation of the facts. This, the oldest scientific organization in Brooklyn, was formed for serious educational work, and this object never has been and never will be changed. Members desiring social relaxation—and we all need it—will be obliged to go elsewhere.

"No less than six distinct medical organizations beside the mother Society will meet in this building.

"In the reading-room there will be on file all the principal medical journals published in the world, in this way keeping the medical profession in immediate touch with the progress of medicine

throughout Christendom. The reading-room, with the free medical library, is the most important work of the Society, and will doubtless continue to grow in usefulness. Provision has been made in our new building for 100,000 volumes, and the space is not too great. It is fair to predict that in less than twenty-five years the additional room will be necessary.

"The instruction given in medical colleges is only rudimentary and prepares the student to properly observe changes which occur in the human body in disease. The real practical medical instruction comes from those whose opportunities in large hospitals enables them to see a considerable number of cases of a similar type, and it is to these men we look for instruction which will reach the general practitioner—the family physician, and the channel through which such acquired knowledge reaches them is by societies, medical journals, and medical books."

The Chairman, in calling upon the next speaker, said:

"As has been said, we are fortunate in the friends we have with us. The three gentlemen selected by your Committee to assist us to-day, each one asked because of especial interest in similar work, accepted the invitation, and honor us with their presence. The gentleman about to address you, at the head of one of our greatest educational institutions, has shown what he thinks of libraries by the magnificent library building which his generosity has placed on Riverside Heights. It is not for me to introduce to this audience the Honorable Seth Low, but it is my privilege to present him."

Seth Low, LL.D., President of Columbia University, then delivered the following address:

"An inexperienced speaker often regrets very rainy weather because he fears that it may interfere with the size of his audience. One who has often spoken, on the other hand, understands that such weather conditions as we have to-day bring together the very people whom he would most like to address, because he knows that in his entire audience there is not one whose interest in the cause is not active and sincere. It gives me great pleasure to take part in the ceremonies of this occasion because of the interest that I have in common with you in the work to be done. We are met here to-day to lay the corner-stone of a building for the Kings County Medical Society. The notion that such a building is to be a sort of medical club, that its object is to minister to the luxury, or even the comfort, of the profession, to me seems simply preposterous. If this building were to contain nothing else than the one

or two hundred medical journals to which reference has been made, it would be a necessity for the profession, of the highest order, and I think I can show you why.

"If you were to visit the College of Physicians and Surgeons in New York, the medical school of Columbia University, you would find that the department demanding the most room, and, in some respects, the most expensive equipment, is the Department of Bacteriology; and yet, as President Gilman of the Johns Hopkins University said to me not long ago, twenty years ago there was no such science. But bacteriology is not only a new science; it is fundamental both to modern surgery and to modern medicine. A year or two ago, I found myself at dinner with Dr. Francis Delafield of New York, and with Dr. McBurney; the former an eminent physician and the latter a distinguished surgeon. I asked Dr. McBurney how he would explain to a layman the great advances in surgery of recent years—upon what foundation he would say that modern surgery rested. Dr. Delafield quickly spoke up, saying that he would answer me, not in the words which Dr. McBurney would be apt to use, but nevertheless in a way which Dr. McBurney would not dispute. 'The surgeon used to think,' Dr. Delafield said, 'that the wound was his principal antagonist, and that as long as he cared for the wound he was doing everything that could be done. As soon as the surgeon discovered, however, that he himself was the foe most to be dreaded; that from his hands, from his instruments, from his dressings, enemies entered the wound which made it much more difficult to treat, modern surgery was born.' In other words, the antiseptic process, the aim of which is to keep harmful bacteria out of the wound, is the very foundation of modern surgery. Dr. Delafield went on to say that the progress of medicine in recent years had been, and would undoubtedly continue to be, upon parallel lines; that, while it was impossible to keep bacteria out of the body as a whole—as they might be kept out of a wound—because there were so many avenues by which the bacteria might enter, nevertheless the physician would learn more and more how to render the body immune against the effects of the bacteria that are dangerous and that cause disease. Accepting this point of view, it is clear that the science of bacteriology is the basis both of modern surgery and of the modern practice of medicine. But, as I said to you a moment ago, this science is hardly twenty years old. Suppose, then, that the present practitioners of Brooklyn, whether in surgery or medicine, had failed to keep up with the development of their profes-

sion by reading the surgical and medical journals, do you not see **that it** is their patients especially who would have suffered? In **other words** the active practitioner must not only be a student **before he** begins to practice, but he must continue to be a student **as long as** he practises. A building such as you are proposing to erect, therefore, is of vital importance, not only for the physicians and **surgeons** of Brooklyn, but also, and especially, for the people of **Brooklyn** who are to be their patients.

"But this building is to contain not only a great collection of **current** periodical literature relating to surgery and medicine; it is also **to** contain a medical library. The speaker who preceded me **intimated** that some were of the opinion that such a library ought **rather to** be a part of a great general library. This leads me to discuss **the** medical book as distinguished from the medical periodical, **and** also the place and function of the technical library. I **think it** was an Edinburgh physician who was asked by a librarian **what he** would do if the medical library outgrew its building. The physician instantly replied, 'Remove from the shelves every book **that was** more than ten years old.' This, of course, was a striking **way** of stating what is only half the truth. So far as it is true, it **means** exactly what I have been saying with reference to periodical **literature**; that the profession is a live and growing thing, **and that** any person who hopes to practise the profession successfully **must** keep himself fully abreast with the thought and the progress of his own time. On the other hand, it must not be forgotten **that** no man is competent thoroughly to understand the tendencies and the developments of his own time unless he is acquainted, historically, with their origin, and so has some basis for **forming** an opinion as to their relative importance and permanent value. One of the most modern of inventions, the incandescent electric lamp, originally depended for its commercial value upon the **pump** of Archimedes, the endless screw. It is not often that **one can** see, in so striking a way, that every new step involves the **steps** that have been taken before; but it is true, nevertheless, although the process is not easily discerned. Accordingly, I hold **that the** medical library of books is not less important to the active practitioner of surgery and of medicine than the library of current periodicals.

"There remains, therefore, only the question as to the usefulness and value of a technical library. There is, of course, no reason **why** a medical library should not be a part of a great general library. On the other hand, it must be frankly said that there is

no necessity that it should be. A great general library, as I conceive of it, is like the sun itself, a source of light, and it sheds light in every possible direction; and this light, like that of the sun, is made up of beams of different colors. Just as there are eyes, also, which are color-blind to some of the beams of the sun, so there are mental eyes which are color-blind to many of the beams of a great library. Indeed, the general library assumes this; and it is created, not so much to minister in all its parts to any single mind, as to minister, by the variety of its parts, to a great variety of minds. The technical library, on the other hand, although it represents light as truly as the general library itself, is light used for a special purpose. It is like the headlight of the locomotive, the object of which is to throw a beam of light along the path which the train must take. This beam is thrown, also, it is to be observed, not simply for the safety of the train, but especially for those who are in the train. Just exactly so this medical library which is to be housed in the building you are erecting is of importance, certainly, to the profession; but it is of importance, more especially, to the men, and women, and children of Brooklyn who, in the course of the years, will be the patients of the profession. For these reasons, therefore, I think the people of Brooklyn ought to upbuild and generously sustain this enterprise.

"There is another reason, also, why I think this movement has a strong claim upon the people of Brooklyn. There is no profession whose membership more constantly serves, without pay, the poor who are in need of their help. Neither is there any other profession which, in its normal practice, exposes its members to the dangers of disease and death which the physician, and even the surgeon, encounters as a matter of course. In times of pestilence, the medical profession are called upon to accept the very risks of a soldier; and to their great honor be it said, they as seldom fail to be worthy of the popular trust. This very Medical Society of Kings County is believed to have had its origin in a successful movement to keep the yellow fever from spreading from the City of New York to the village of Brooklyn in 1822, or thereabouts. In the cholera year of 1832, two of its most distinguished members perished at their posts; and so it always is. Therefore, the appeal which this Society makes for support in this undertaking is an appeal that the people of Brooklyn should answer without hesitation, and most generously.

"Mr. Chairman, it has given me much pleasure, personally, to be here to-day; and officially, as Chairman of the Medical Fac-

ulty of Columbia University, I think I have the right to bring you, in this undertaking, the good wishes not only of my colleagues of that Faculty, but also of all your medical brethren on the other side of the East River. To be sure, I have no official authority to speak in their name, but I know many of the members of the profession in the Borough of Manhattan well enough to know that, were I to be silent in this regard, I should most certainly misrepresent their feelings. Again, as the President of Columbia University, formerly King's College, the institution which gave the first medical degree ever granted in the State of New York, in 1769, I think I have also an especial right to say to you that, from the point of view of medical education, the work you have in hand is of the utmost importance and ought to be generously supported. For all of these reasons, therefore, Mr. Chairman, I am glad to be here and glad to be able to express to you, on behalf of these many interests, the heartiest wish for the complete success of your undertaking."

Joseph H. Hunt, M.D., President of the Medical Society of the County of Kings, and who, when Librarian in 1891, first warned the Society of the necessity of a new building, as referred to in the address of Dr. McNaughton, then laid the corner-stone of the new building, prefacing this act by the following address:

"It is my honorable and esteemed privilege as the President of the Medical Society of the County of Kings, to deposit in the receptacle prepared to receive it, certain records, which may transmit to the distant future the medical history of Brooklyn, from its first settlement, the history of the Medical Society of the County of Kings for the first seventy-six years of its existence, and the status of the art of healing in the year 1898.

"This is the beginning of a new epoch in the history of the medical profession of Brooklyn. Its representative medical society has undertaken the erection of a temple sacred to the prevention of disease and the relief of the sick. Within its walls we hope to see gathered all the medical societies not only of Brooklyn, but from time to time to entertain those from the more distant parts of Long Island, as well as State, national, and international organizations, which may be induced to visit us.

"Though this corner-stone has not been tested by the ceremonious art of the speculative craftsmen, I am assured by the more practical operative architect and builder, that it has been found to be square, level, and plumb; and in all respects well qualified to become 'the head of the corner'; that the cement is well-tempered

and typical of the fraternal bond which unites the medical profession into a common brotherhood that has lasted from the beginning of history, and will continue as long as mankind is doomed to suffer the results of its own imprudence, as well as the first temptation in Eden.

"The seed which the Medical Society of the County of Kings has carefully treasured and nourished for the past seventy-six years, is to-day planted in new soil, where we will watch carefully during the next few months the growth of the tree, which we already see germinating, with the assurance of a rich fruition, yielding a valuable nutrition to every department of medical science, and sheltering beneath its protecting branches abundant treasures of medical literature."

In the corner-stone was placed a leaden box containing the following:

Manual of Society, 1888; New Building Supplement of the Journal, 1898; proceedings of annual meeting of Society, for 1898; Brooklyn Medical Journal, for November, 1898; constitution and by-laws of Society, 1895; program, seventy-fifth anniversary of Society, 1897; annual address of Dr. McNaughton, President of the Society, 1894; Jenner medal, from memorial meeting, in honor of the discovery of vaccination, 1896; pictures of ex-Presidents of the Society; Long Island College Hospital annual circular for 1898; medical history of Brooklyn, by Dr. J. H. Hunt, from consolidation number of *Eagle*; biographical blank for members; old certificate of membership; programs of "Associated Physicians of Long Island," 1898; Brooklyn Medical Book Club (paster); clipping showing picture of old building, from *Eagle* of September 29, 1895; program of laying of present corner-stone, including addresses, 1898; Women's Auxiliary, history and announcements, 1898; Subscription program Committee and Blank, 1895; ballot and meeting notices, 1898; announcement of Directory for Nurses, 1885.

The Chairman:

"Father Malone had expected to be with us up to the last moment, but owing to the inclemency of the day he is detained and sends us a letter which I will read, after which the Benediction will be pronounced by the Rev. Dr. Storrs."

## "SAINTS PETER AND PAUL'S CHURCH,

"BROOKLYN, NEW YORK, November 10, 1898.

"The committee of the Medical Society having in charge the ceremony of laying the corner-stone of their new building, corner of Bedford avenue and Pacific street, has invited me to the celebration on Thursday, 10th inst. I have accepted their gracious invitation and should be there as one of our large community who is **always** ready to second any movement by our brave and self-sacrificing physicians, who can never receive in any community the **honor** and reward for what they do to help suffering humanity. I am with you in spirit, and if there, I should say to our millionaires, here is where your generous help would be a blessing to the people. My kind, thoughtful physician, Dr. Blaisdell, has advised me **with** the vestiges of a cold still hanging on to me, that it would not **be** advisable to expose myself in the open air this damp day. And **this** I feel to be my duty, looking to the future, as I will need to be perfectly well to do justice to the very important occasion on the 20th inst., when much labor will devolve on me, as we will **then** open to the public the magnificent memorial building, 'The Henry McCadden Memorial.' Had we Republican weather on the 10th, as we were vouchsafed to enjoy on the 8th, I might enjoy the honor of being on the same platform with Dr. Storrs and President Seth Low. As it is, you have my sincere wish of a great success attending on the work now being started by the doctors of Brooklyn, for their own benefit directly and indirectly for **the** benefit of the people.

"Respectfully yours,

"SYLVESTER MALONE."

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THE OPERATIVE RELIEF OF BRAIN COMPRESSION FROM  
INTRACRANIAL HEMORRHAGE.

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BY JAMES P. WARBASSE, M.D.,  
Assistant Surgeon, Methodist Episcopal Hospital.

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In considering the question of compression of the brain from hemorrhage within the cranial cavity, it must be borne in mind that the brain is enclosed in an unyielding case, which is com-



pletely filled by its contents; the accumulation or development of any abnormal material within the cranium, therefore, must displace volume for volume the normal contents of that cavity. Moreover, the brain-tissue itself is practically incompressible, and for that reason intracranial pressure-producing conditions exert themselves first upon the fluid contents of the skull. These are the blood contained in the capillaries, vessels, sinuses, and the cerebrospinal fluid. The first symptoms of diffused compression upon the brain are the symptoms of cerebral anemia due to the emptying of the capillaries. As the compression increases the veins and sinuses become compressed, the arterial resistance is increased, and the cerebrospinal fluid is crowded into the basilar ventricles and into the spinal canal. These phenomena produce a characteristic train of symptoms, and unless the compression involves particularly the motor or some other distinctly localized area, they are quite as characteristic of cerebral anemia as though due to some extracranial cause. The most constant symptoms are dizziness, stupor and unconsciousness, and these are the signs of cerebral anemia. It should also be observed that these symptoms of local anemia are practically the same whether due to hemorrhage, depressed fracture, or the presence of serum or pus. On account of the incompressibility of the brain and the unyielding character of the skull, foreign matter can occupy the cranial cavity until all of the removable fluids have been expelled, but long before this takes place death has occurred as the result of anemia of the vital-centers. Pagenstecker conducted a series of experiments to determine the effects of foreign pressure introduced inside of the skull. He injected wax between the skull and the dura mater, and found that the minimum amount which could be introduced without causing symptoms of compression was equal to 2.9 per cent. of the volume of the normal contents of the cranium, and that the maximum amount which could be introduced without causing fatal symptoms was 6.5 per cent.

The time allotted to this paper does not permit of a full discussion of the symptoms of compression. The signs of hemorrhage of traumatic origin occurring between the skull and the brain will be briefly considered. The symptoms mentioned above vary with the degree of compression. Dizziness, muscular incoordination, and slowness of the intellectual processes are the earliest signs. As the pressure increases, stupor and unconsciousness supervene. When a patient has sunk into a state of unconsciousness from compression, a recovery from this state will not

occur unless the compression is relieved. The changes in the appearance of the pupils is a symptom of much variability. Inequality in the size of the pupils is usually observed. In six cases reported by Charles Phelps, the pupil on the side of injury was dilated, and contracted on the opposite side; while in two cases the pupil was contracted on the side of injury and dilated on the opposite side, the hemorrhage in each case being epidural and derived from the middle meningeal artery. This author in his recent work on "Traumatic Injuries of the Brain," states that there seems to be no change in the pupils which is positively characteristic; and that in three cases in which both pupils remained normal, the hemorrhage was epidural in one, pial in one, and cortical in the third. Wiesmann observed that when marked dilatation of one pupil occurred, in twenty out of twenty-four cases, it was on the side upon which the extravasation existed.

A slight rise of temperature is an almost constant sign. This may be due to absorption of fibrin ferment or to irritation of the thermal centers. The slowing of the pulse-rate is one of the most characteristic symptoms of brain-pressure. This is due to the greater quiet of the muscles of the body, due to the stupor and to the pressure effects upon the cardiac centers. By dividing the pneumogastric nerves in animals whose pulse-rate had been slowed by brain-pressure, Kehrer observed an immediate acceleration of the pulse. A slowing of the respiration is also present. Vomiting is usually observed during the early stages before the compression has reached any considerable degree. The signs of venous obstruction in the optic nerve are of great diagnostic value.

To illustrate the symptoms and the operative relief of cerebral compression from hemorrhage, I will relate briefly the histories of two cases which are at present under my observation, which occurred in the service of Dr. Pilcher in the Methodist Hospital, and upon which I operated for the relief of these symptoms.

CASE I.—Male, age fifty-three. This man fell from a wagon, striking upon his head; he was totally unconscious for several minutes. When brought to the hospital by the ambulance-surgeon he was in a condition of stupor, and could only be aroused with difficulty. The skin was cool and bathed in perspiration. The pulse-rate was normal, there was no inequality of the pupils, nor was there bleeding from the ears, nose or mouth. No fracture of the vault of the skull could be detected. While being brought to the hospital the patient vomited repeatedly, his temper-

ature was 99.4° F., the pulse 70, and the respiration 20 on admission. For the first twenty-four hours the mental condition remained about the same. The patient lay in a stupor, from which he could be aroused by speaking sharply. He could be made to answer questions, but immediately relapsed into his original condition. Gradually he developed signs of pain in the right side of the head and back of the neck, from which he seemed to suffer intensely, and of which he bitterly complained when aroused. His pulse-rate steadily decreased. On the second day it ranged between 46 and 60, and on the third day it had gone down to 38 beats per minute. There was muscular weakness on the left side, and the left leg responded to irritation much more slowly than the right. Here were the symptoms of a steadily increasing brain-pressure, localized particularly upon the right side. Accordingly the skull over the temporoparietal region was exposed by a wide curved incision extending from the zygoma in front of the ear upward, across the parietal eminence, and ending behind the ear in the parieto-occipital region. The flap was turned down, and the skull opened by trephine over the middle of the posterior central gyrus. The dura bulged but slightly more than normal. It was incised, and a small amount of bloody serum escaped. A second button was removed anterior to this and over the posterior branch of the middle meningeal artery, but even less bloody serum was found here after incising the dura. A third opening was made through the skull below and posterior to the first and over the fissure of Sylvius. On incising the dura there was a freer escape of bloody serum took place, and it could be distinctly discovered that the bloody fluid was oozing up from the direction of the base of the brain. After the incision of the dura mater the patient's pulse-rate increased until it became normal. For purpose of drainage a smaller trephine opening was made through the squamous portion of the temporal bone in front of the ear, and as low down as the zygomatic process would permit, thus opening the skull on a level with the base of the brain. A small drainage-tube was carried just through the dura in this opening. The wounds were closed as usual. On the day following the operation the pain in the head had disappeared, the pulse-rate had gone up to normal, the stupor had subsided, and the patient's mental condition was normal. The bloody discharge continued for about forty-eight hours. On the third day the tube was removed. The wounds healed without complication, excepting the signs of some necrosis of the bone edges. The patient was dis-

charged from the hospital, and referred to the out-patient department May 16th, three weeks after the date of his injury. This man, had in all probability, sustained a fracture of the base of the skull, from which had taken place the above described bloody oozing.

**CASE II.**—Age fourteen. Three days before his admission to the hospital this boy had been struck upon the head with a baseball bat. He lay in a state of coma for an hour, at the end of which time he regained a partial consciousness which amounted to stupor. He lay in this condition for three days without any improvement, and was then brought to the hospital. He could be aroused from his stupor sufficiently to answer questions in a desultory manner, but would drop back immediately into unconsciousness. He could be aroused sufficiently to stand on his feet and walk when supported, but if permitted to stand alone he would quickly lapse into stupor and fall. Ataxia was the only muscular symptom; the pupils were of equal size. Directly above and behind the left ear over the parieto-occipital region was a soft hematoma beneath the scalp the size of the palm of the hand. No depression of the skull could be felt under this. The temperature was normal, pulse 80, respiration 20. A diagnosis of intracranial hemorrhage posterior to the left motor area was made. The skull beneath the area of contusion was explored by a wide curved incision, the broken-down blood beneath the scalp liberated, and the flap turned down exposing the bone. Several lines of fracture were discovered about the center of the parietal bone. The skull was opened by removing an area of bone 5 cm. by 3 cm. in size. This exposed a clot of blood between the dura and the skull. The thickest part of this clot lay over the supramarginal gyrus and the inferior parietal lobe, and gradually thinned out toward its periphery. It was about 10 cm. in diameter, and 1.5 cm. thick at its central part. It was peeled away from the dura, to which it was closely adherent. There was no wound of the dura. The bleeding had come from the diploe of the skull, from which a vigorous hemorrhage occurred upon removing the bone. The wound was closed in the usual manner, uncomplicated healing followed, and by the end of twenty-four hours the stupor had subsided and the patient was restored to a normal mental condition. At the end of ten days, on June 15th, the patient was discharged from the hospital.

These two cases suffice to illustrate the prompt recovery

which may be expected in cases of cerebral compression when the cause of the symptoms is promptly removed.

#### DISCUSSION.

Dr. Warbasse : I think that out of justice to myself a word of explanation may be in order. Four days ago I was telephoned to by the President, who asked me to read a paper before this meeting. I was then engaged in work that was demanding every spare moment of my time; and so on this 21st day of June I am compelled to offer excuses for the shortness of the days, and to apologize for presenting a paper which is imperfect and incomplete.

I have reported only these two cases, for the reason that they are immediately in my mind, though it has been my fortune to have operated upon a number of cases with intracranial hemorrhage. I am able to present these patients who are still under observation.

#### PATIENTS PRESENTED.

This is case No. 1, in which the compression was so great that the man's pulse-rate sunk to 38 per minute. Here is seen the scar of the incision, and the trephine openings can be felt. In front of the ear the final trephine opening can be palpated.

This second case is the boy who lay for three days in a stupor without his parents having had a doctor to see him. They became alarmed that he did not recover, and he was sent to the hospital. This boy's blood-clot involved the area immediately posterior to the motor area, and I presume that his ataxic symptoms were partially due to compression upon the posterior lobes of his brain and the cerebellum.

Dr. H. B. Delatour : Mr. President, cases of intracranial hemorrhage are certainly among the most satisfactory we have to deal with. We find our patients frequently at what apparently is the point of death, and by an operation of trephining and removing the clot we promptly see a recovery follow. The recovery from symptoms is usually very prompt. We find as in the first case exhibited, the doctor says the pulse-rate was down to 38 or 40, and in such cases as soon as the pressure is removed from the brain, while the patient is still under the anesthetic, we frequently see the pulse go up to normal and gradual or rapid improvement take place.

I recall one case that came into my service at St. John's about a year ago, a little girl who a week before she was brought into the hospital had fallen down the cellar-stairs. The child cried a good deal, and was lifted up and brought upstairs and lay around for a little while, and then became semicomatose and yet began to cry. If I remember correctly, she had no medical attention at all during the week. At the end of a week she was brought into St. John's in a condition of semicoma, from which you could arouse her sufficiently to get a reply, but she kept up a continual moaning or crying. Anodynes had no effect; there was no mark on the skull as evidence of depression; there was a slight abrasion behind the right ear, and she continually placed her hand in that neighborhood; there was no paralysis. The diagnosis of probable intracranial hemorrhage was made, a trephine opening was made posterior to the ear, and a clot some two inches in diameter was found, the result of rupture of the lateral sinus on that side. From the time she came out of the anesthetic until she left the hospital two weeks later there was no more crying nor any more complaining of headache.

The amount of compression that the brain can undergo without destroying life is marvelous. I remember one case of a man in the Norwegian Hospital, in which the thickness of the clot was at least an inch, and extended over nearly the entire left hemisphere. After removal of the clot through a rather large trephine opening the patient made a very excellent recovery.

These cases differ very materially from cases of epilepsy. I think the general experience of men who have trephined for epilepsy resulting from old depressions or injuries is one of much dissatisfaction. In the experience I have had of trephining for epilepsy the final results have been very unsatisfactory, and I can only remember one case in which there was permanent improvement, while in these cases of hemorrhage the recovery is prompt and satisfactory in every respect, whereas if trephining is not done and the clot is allowed to remain, the prospects of epilepsy developing and becoming incurable at a later period are unquestionable.

It is a very important matter to recognize that it is not necessary for fracture of the skull to take place in order to have intracranial hemorrhage; it is not necessary to have a simple fracture—much less a depressed fracture. The main hemorrhage is usually extradural, and can be easily controlled.

Dr. William Browning: Though not a surgeon, I should like

to say a few words on this subject. It is certainly a most important one, and of course it has been well handled.

Now, if you go to any of the places where epileptics or crippled or the demented congregate—to the special clinics, hospitals or institutions—you will find a great number with a history of early accident, and where, so far as we can tell by reasoning backward from the present state of the case, a prompt operation soon after the accident would have prevented the occurrence of such conditions. Therefore, this class of operations are not simply life-saving, but by the prevention of permanent mental and physical injury they are also cripple-sparing. It is a great work if by prompt action they can be saved, and I am sure, that at the present time this can be done in a goodly number of cases. If we find evidence of brain-pressure, whether the traumatic lesion can be definitely located or not, I believe that in most cases operative relief can be given. We should attempt it; we may not succeed, but the probabilities are we shall, and on the other hand if we leave the patient alone the chance of permanent recovery is not good.

I did not hear the first part of the paper, and so may go over one or two points unnecessarily. The title of the paper is aptly chosen. It does not say traumatic hemorrhage of the brain—for evidently one of his cases would not come under that head—but traumatic apoplexy. In other words, an injurious pressure may be exerted on the brain not only by a simple hemorrhage, but sometimes by serum or cerebrospinal fluid, whether the latter be either produced or retained abnormally. There are liable to be evil effects in either case, though probably other material is absorbed more readily than blood. At any rate when this pressure is kept up for much length of time the brain is injured; by relieving this we accomplish good, whether it is blood we let out or something else.

In one case I notice he had recourse finally to the favorite site, *i.e.*, opening over the main trunk of the medidural artery. This is the generally accepted spot where you do not know any other point—where there is no other indication, and yet you feel sure there is brain-pressure.

There are cases, of course, that show heavy brain-pressure and yet pull through without any operation. I remember one of injury over the forehead, across the supra-orbital ridge, with evidence of fracture, who developed in a couple of days very marked symptoms of pressure, even to the extent of stupor, and yet went

on to complete recovery; and I was able to follow him until he died of pneumonia some years later. At the same time I believe such a case should be operated on, as a rule, if circumstances permit.

Then, there is another class of symptoms, that perhaps the speaker referred to, the so-called Jacksonian symptoms—unilateral spasm and paresis. I remember one such case, the result of accident, where there were typical one-sided seizures, and in the interim almost complete paralysis. The blood was found not outside the dura, but in the cortical substance itself. It was let out and the lad recovered fully and has since remained well—a couple of years.

One other point might be mentioned, and that is, that the best treatment always is prevention. While we cannot, of course, prevent the accident that has happened, there are cases in which the apoplexy does not develop until some time, a day or more, later. This, with care, we probably can avoid. The general principle to be applied here is the use of moderate depressants to the circulation. By their use the shock-effect seems to be mitigated, any partial injury to the vessels is given a chance to recover, and we are much less liable to have an effusion. This is perhaps hard to demonstrate, since we may not know what has been prevented; but the principle is a perfectly clear one, and apparently we see good results from following it.

Dr. C. F. Barber: Mr. President, I have nothing to add. The cases which I have operated upon have been somewhat similar to those which have been reported. I have one case in mind which occurred recently; a case of traumatism, where a man was thrown violently over the dashboard of a car, striking upon the occipital region. Here there was some little depression. The man became insane following this accident, and operation was advised and consented to. The operation was performed in Dr. Madden's service at the King's County Hospital. We found there a very slight depression in the bone, but extending laterally, probably running well over into the temporal region. A trephine opening was made, and some little bloody serum escaped. Not much importance was attached to this, but the fracture was traced out, and the inner table of the skull was found depressed almost throughout line of fracture. Probably  $2\frac{1}{2}$ -inches of bone was removed in length laterally, by an inch in width. The dura was not incised in this case. The accident occurred some days previous to the time of the operation, the man was moved several



times, and while it was the impulse, you might say, of the surgeons to open that dura, Dr. Browning, who was present, strongly advised against it, and I think his good judgment in that matter was the means of doing this man considerable good; because in the removal of this bone a great deal of pressure was relieved, and we have found since that improvement has steadily gone on. A certain amount of absorption probably had taken place if there was intradural hemorrhage, as indications pointed to, and if his improvement does not continue we have still the option of opening the dura and removing what clot, if it be organized or not, remains there. That is only an illustration of what the other gentlemen have said, except it is a case a little older in duration than any of them. I have done a good many of these operations since 1885, I think when I first became interested in the subject, and it is one which should be more generally taken up and looked to. The operation should be practised a great deal more frequently than it is. I think the tendency of the surgeon is to be a little too conservative in this matter. If they would push on and do a little more brain surgery the results will soon show for themselves. I believe that it is not always necessary to open the dura on the first trephining. It is sometimes well to wait and see what improvement takes place, and this I think should be borne in mind in not only operating for hemorrhage, but also for neoplasms and other intracranial troubles.

Dr. D. Myerle : Bearing upon the propriety of operation in cranial injury, I recall a case that occurred while serving in the Eastern District Hospital. A boy was brought there, having been hit with the corner of a brick. He suffered but slight concussion, but considering the manner of his injury operation was advised; to this the parents would not consent, preferring to take him home and await developments. It was my good fortune to keep him under observation; within a few months the lad exhibited very marked evidence of cerebral irritation; from a mild, docile boy he became wholly unmanageable, so vicious that it was dangerous for other children to play with him. The parents now appreciated the wisdom of early interference, and readily consented to operation. He was removed to the Methodist Hospital, in the service of Dr. Fowler. The inner table was found depressed and the dura adherent; the ultimate result was the disappearance of all the unfavorable symptoms as affecting his disposition, the boy now contributing to the support of the family.

Dr. Warbasse : There is much that can be said on this sub-

ject, Mr. President, and certainly a discussion of this kind might be quite exhaustive. The point which a previous speaker has made as to the danger of these symptoms coming on gradually some time after the accident and the advisability of resorting to methods for preventing the development of these symptoms is a practical and important matter. I have in mind cases in which the symptoms of compression were absent for hours or even days after the infliction of the accident, but that in the presence of restlessness or delirium the symptoms of compression gradually developed. I recall now a case of hemorrhage associated with fracture of the skull in a patient who presented no symptoms of compression at all for several days. Things had been going on very well, when gradually the symptoms of compression developed and operation disclosed a recent hemorrhage.

The source of these hemorrhages is a matter of interest. In the case of the man whom I presented here to-night I am satisfied that he suffered from fracture of the base of the skull, and yet the characteristic symptoms and the symptoms which we have been accustomed to regard as pathognomonic were absent in that case. There was no sign of oozing from the nose, or the mouth, or the ears, or subconjunctival edema or ecchymosis, and it was only the presence of a persistent bloody oozing from the region of the base of the brain which would lead one to believe that this man had suffered a fracture of the base.

Dr. Charles Phelps in his recent work on the "Traumatic Injuries of the Brain," has collected a large number of cases in which autopsies have been made, and he has endeavored to associate the relation of the autopsy findings with the clinical signs which these cases have presented. I have taken the pains to note down some of the findings of these cases, particularly with regard to the appearance of bloody or serous oozing from the nose, mouth, or ears in cases of fracture of the base of the skull. He has reported 286 cases of fractures of the base, 110 of which recovered, and 176 of which died. Upon these cases were made 146 autopsies. The cases which showed evidences of hemorrhage externally were 67, and there were 61 cases in which there were no signs of external bleeding at all—a showing which is not in accord with our previous understanding of this symptom. In half of the cases, almost, there was no signs of external bleeding, in which cases the autopsy showed fracture of the base of the skull.

In 9 cases of fracture involving the petrous portion of the

temporal bone there was oozing from the ear in 5 cases, and in 4 cases no sign of external oozing at all.

In 12 cases of fracture involving the petrous portion and the middle fossa there was oozing from the ear in 6 cases; from the ear and nose in 2 cases; from the ear, nose, and mouth in 1 case, and no hemorrhage in 3 cases.

In 12 cases of fracture of the petrous portion and the posterior fossa there was bleeding from the ear in 5 cases; there was post-mastoid edema and ecchymosis in 1 case; there was bleeding from the ear and nose in 3 cases, and in 3 cases there was no hemorrhage at all.

In 14 fractures involving the petrous portion of the temporal bone, the middle and posterior fossæ of the skull, there was bleeding from the ear in 6 cases; from the nose and mouth in 1 case; from the nose in 3; from the nose, mouth, and ear in 2, and no hemorrhage in 2 cases.

Then, briefly, in 9 cases of fracture of the anterior fossa there were signs of external hemorrhage in 4 cases, whereas, in 5 cases there was no sign of external hemorrhage at all.

In 17 cases of fracture involving the middle fossa there were 4 cases in which there was external hemorrhage and in 13 cases there was no visible sign of external bleeding.

In 21 cases involving the posterior fossa there was no hemorrhage in 21 cases.

In 13 cases involving the anterior and middle fossa there was hemorrhage in 8 cases and no hemorrhage in 5 cases.

In 5 cases involving the posterior and middle fossæ there was hemorrhage in 1 case and no hemorrhage in 4 cases.

In 2 cases of fracture involving the anterior and posterior fossæ there was hemorrhage in 1 case and no hemorrhage in 1 case—all showing the danger of pinning too much faith upon the symptom of external bleeding in diagnosing fracture of the base of the skull.

A previous speaker has referred to the necessity of persistence in hunting out the source of compression when the unmistakable signs of compression exist. In this first case also, when the dura was first opened, I remember that I was surprised to encounter no sign of compression to speak of at that location over the motor area, but that a continuation of the search, trephining lower down, revealed an abundant flow of bloody serum welling up from the region of the base of the brain.

It is a most gratifying thing, as the gentlemen who have pre-

ceded me have said, to observe the recovery that takes place in just this class of cases when dealt with immediately. We see the most pronounced symptoms of compression, particularly in those cases in which there is a compound depressed fracture of the skull, make perfect recoveries when immediate operation is done ; and we see the most trying and persistent symptoms exist when even slight compression remains unrelieved. We also know the very great difficulties encountered in endeavoring to relieve these symptoms when they have existed for years, manifesting themselves in epilepsy and mental disturbances. Even when the surgeon is able to discover the defect and remove it—even then his efforts are often without avail.

## MOUTH-BREATHING.

BY JAMES J. BOWEN, A. M., M. D.,

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So closely associated are the conditions of mouth-breathing and adenoid vegetations, that the early literature of the one is practically that of the other. It is far from my intention to make this paper a dissertation on hypertrophy of the pharyngeal tonsil, yet you will appreciate the fact that I cannot entirely ignore the subject, if I would be at all comprehensive.

In the year 1860, while George Catlin was traveling among the Indian tribes of North and South America, investigating their mode of existence, and incidentally gathering facts which seemed destined to prove that civilization was degeneration, Meyer and Czermak were laboring zealously in their daily clinics, endeavoring to discover why so many of their patients breathed through their mouths and spoke with a muffled voice.

Catlin's<sup>1</sup> book, written with the skilled hand of a lawyer, though unfortunately misguided by his personal experience as a snorer, asserted that the condition was simply a vicious habit, which could be corrected by the exhibition of a little will power and a removal from the environments of civilization. Among the two millions of Indians he had met, not once had he seen a chronic mouth-breather.

Wilhelm Meyer, guided by scientific principles, located the most frequent cause in the pharyngeal vault, which he termed "adenoid vegetations." His interesting paper<sup>2</sup> to the Royal

Medical and Chirurgical Society in 1868, in which he praised the labors of Voltolini and Lowenberg, described the condition with a master's hand, and stimulated investigation in the centers of Europe as well as in this country. Within a few years many additional facts were learned, and monographs on the subject were presented by Lowenberg,<sup>3</sup> Wagner,<sup>4</sup> our honored colleague Doctor French,<sup>5</sup> Cassels,<sup>6</sup> Tornwaldt,<sup>7</sup> Chatellier<sup>8</sup> and Cheval.<sup>9</sup> Since then many papers have been written, but so complete were the labors of the pioneers that little has been added of value, except perhaps in the matter of treatment.

Comparative anatomical and physiological research have proved without the shadow of a doubt that the mouth was designed for purposes that have a direct relation with the functions of the alimentary canal, and was never intended to participate in respiration. What connection it has, in man, with the respiratory tract, is a dependent one, secondary to the function of the vocal cords—in giving certain modulations to the sound produced by them. In those animals who have no voice there is no connection between the alimentary and respiratory tracts.

The atmosphere, before it can be appropriated with profit by our economy must undergo important physical changes. To render the air thus suitable to our needs is a distinct duty of the upper air passages. Bosworth<sup>10</sup> says in his book: "The nose prepares the ingoing current of air so that it can exercise no injurious influence on the mucous membrane of the passages below." Thus it is that when from any cause we are unable to breathe through the nose, we must inhale air that bears about the same relation to what it should be, as does murky to filtered water.

In the etiology of this condition the question of heredity has received its share of discussion. One can gather pages of statistics which prove its important influence and then collect as many more which say it has no connection whatever with it.

It is not confined essentially to civilized countries, as Catlin would have us believe, for of the six Eskimos brought to this city for exhibition last year, two were mouth-breathers. Again, I have seen photographs which were taken in the Arctic regions and also some in the work of Stanley and Livingstone's expeditions in Africa,<sup>11</sup> and was surprised to observe at least one typical face in nearly every group of ten or more natives. My opinion is that the climate is a very important etiological factor: not so much in relation to a torrid or frigid atmosphere as the physical

qualities of that atmosphere. In those places where the inhabitants do not enjoy good hygienic surroundings and wholesome food—there I would expect to find mouth-breathing prevalent.

One of the most common of the direct causes is hypertrophy of the turbinate bones. Frequently aggravating this is a discharge from the nostrils and an annoying nasopharyngitis. Often the hypertrophy is of the posterior variety and difficult of diagnosis, but if your examination is complete you cannot fail to observe it.

In adults, nasal polypi are a frequent cause. Recently two cases came to me, both mouth-breathers. In one, large polypi hung down posteriorly on both sides of the nose, permitting inspiration fairly well, but by a valve-like action entirely shutting off nasal expiration while he was in the upright position. This necessitated the opening of the mouth to complete respiration, and it was not long before the mouth was kept open continually. The other case could get no air whatever through his nose and had been a mouth-breather for five years or more.

Deviations and deformities of the septum, as well as exostoses and tumors may completely occlude the nasal passage. A case of bilateral abscess of the septum<sup>12</sup> has been reported in which mouth-breathing was one of the prominent symptoms during the course of the affliction.

Not the least common by any means are those cases caused by foreign bodies. In the summer of 1896 a child of four years was brought to me by its mother who said that it snored dreadfully, and that it took nearly all her time to wipe away the discharges that came from the nose. I learned from her description of an operation that had been done two months previously, that the tonsils and adenoid growths had been removed. Examination of the nostrils showed a mass of decomposition on each side.

After cleansing as thoroughly as possible I came to the conclusion they were foreign bodies. Four spit-balls of ordinary newspaper were removed from the left side and three from the right. I found no adenoids, and within a week, by antiseptic spraying, all symptoms had disappeared. You will find just such cases every day, caused by any household article whose size permits its entrance into the nostrils.

Freudenthal<sup>13</sup> describes a case of what he terms nasal rheumatism in which mouth-breathing is necessitated by the closure of the proper passages.

Of course, in the vast majority of cases, mouth-breathing is

caused by adenoid vegetations in the pharyngeal vault. As an element of etiology it is present in over ninety per cent. of the cases in children. In adults it is rare.

Hypertrophy of the tonsils enters largely into the causation of this condition. More often, however, it is associated with hypertrophy of Luschka's tonsil.

Where there exists an ulceration of the palate or pharynx from syphilis there will be a tendency to adhesion. A number of cases have been recorded<sup>14</sup> where this has taken place. One good example of this unfortunate tertiary deformity I remember distinctly well. The patient was a woman over fifty, who had been going the round of the clinics for years. The palate was attached to the pharynx and the uvula was absent. The post-nares was shut off entirely, except for a small opening where the uvula should have been, about an eighth of an inch in diameter. This would plug up over night with mucus adding much to the distress. She had lost the sense of smell, was partially deaf, had pharyngitis sicca, chronic laryngitis, and bronchitis. I wanted to free the palate and observe the results, but she passed out of my hands the day I suggested operation.

Although the oropharynx is not a very common locality for tumors, dermoid cysts and benign growths have been reported.<sup>15</sup> It stands to reason that were such growths of moderate size they would prevent nasal respiration.

I have frequently observed the chewing-gum habit among mouth-breathers. If a person is not a mouth-breather and chews gum there is a possibility, though rare, I presume, of his becoming one; but if he is a mouth-breather and chews gum, he is doing the next best thing to a cure, by altering somewhat the impure air that comes in contact with the gum.

Among the other causes of chronic mouth-breathing are abscess of the jaw, caries of the teeth, irregular teeth, lingual and sublingual tumors.

Clinton Wagner<sup>16</sup> mentions a case due to congenital bony closure of the post-nares, and also a case due to paralysis of the dilators of the nostrils.

I have seen two cases of acromegaly and two of exophthalmic goiter who were mouth-breathers, but not having the opportunity to investigate further I must refrain from any definite statement concerning a possible relationship.

Last year Clutton<sup>17</sup> reported a case of an abscess in the pharynx which prohibited nasal respiration. There are like this,

a number of cases which are not typical, where mouth-breathing is one of the symptoms, for a limited time at least, and to which I will give no further consideration other than to say, that instead of having a baneful effect upon the system, a cool ingoing current of air seems to be one of Nature's remedies of relief. Among such are quinzy, diphtheria, scarlet fever, croup, retro-pharyngeal abscess, and other acute inflammatory conditions of the upper air passages.

Sometimes you will find a case which has a number of causes as well as complications present. Bishop<sup>18</sup> prints a picture of a girl seventeen years old, who had adenoids, hypertrophied tonsils, bilateral nasal polypi, dislocation of the nasal bones, protrusion of the eyeballs, suppurative ethmoiditis and O. M. S. C. in both ears.

There are some men whose occupation often compels them to adopt mouth-breathing, at least while at their work. We know the olfactory sense is particularly delicate, and also delicately particular about being over-used. Thus we often see painters, plumbers, and those engaged in the manufacture of odoriferous substances, breath through their mouths to preserve their sense of smell.

In those cases of mouth-breathing, before stated, where the condition is a voluntary act, there is no symptom other than an open mouth, and there are no effects from it. In the others where the condition is an involuntary one, there are a variety of symptoms, depending to a great degree upon the exciting cause.

In adults the causes are mainly nasal, and the mouth is not opened to the extent that characterizes post-nasal obstruction. The jaws are sometimes in contact and but the lips separated, giving a peculiar smiling expression to the face. Ordinarily the patient will complain of a dry throat, irritating cough, wheezing, sneezing, and snoring. The snoring is often violent in character.

I read with much interest and amusement in the *New York Medical Journal*<sup>19</sup> the case of a young woman who was tried before a Police Justice in Westminster, England, on the ground that her snoring was the commital of a nuisance and a menace to public health. The quality of her specialty may be judged from the following extract: "She had hardly retired for half an hour, when the hotel-keeper, struck with horror, heard resounding through the house a violent and continued noise that he compared before the Court to that of a freight train passing over an iron bridge."



The sense of smell is dulled or lost, the lachrymal duct closes and tears trickle teasingly down the cheeks; there is partial deafness or tinnitus, the vision is far from perfect, headaches are his *vade mecum*, and he regards himself a miserable automaton. His pharynx is the seat of a granular condition, or perhaps more often a pharyngitis sicca. The velum palati is congested and the uvula elongated and swollen.

The condition in infants and children is somewhat different, though the ultimate results are about the same. First the physiognomy is pathognomonic. The eyelids droop and the eye itself assumes a listless stare; the nostrils are small and collapsed, the alæ remaining motionless. The upper lip is thickened and maintained in a fixed position; the lower jaw drops leaving the mouth open, and sometimes the tongue protruding. In cases of long standing there will be a hypersecretion of saliva and dribbling. If adenoids be one of the etiological factors a small fissure may be observed on the lateral cartilages of the nose.<sup>29</sup> This, the most stupid and idiotic expression a child assumes in any disease is the characteristic appearance of a young mouth-breather.

There will be an inability to fix the attention on a given subject any length of time. The child is irritable, and cries on the slightest provocation. The breathing is noisy, and after exercise becomes puffy. Sleep is torture. The little one will go to bed only to toss about and cry. Moments of sleep will be interrupted by the visions of a horrible nightmare, from which they frequently shiver far into the waking hours. Enuresis among the babies is exceedingly common. Snoring, though hardly to the extent of the case I quoted above, is often sufficient to keep the mother awake. In the morning the throat will be dry, notwithstanding how much water might have been taken during the night, and the child gets up as tired, if not more so than it went to bed.

Nursing children often refuse the breast or vomit after a short attempt at feeding. The infant becomes anemic and loses weight. Sometimes a diagnosis of marasmus is made, but if you would only bear in mind the fact that when an infant cannot breathe through his nose he must do so through his mouth, and that as he cannot nurse and breathe at the same time, you will immediately discover that natural instinct compels the infant to forsake the breast in preference to the more vital need of air.

Again we frequently have convulsions in children, to which we cannot, for a while, conscientiously ascribe a cause. See if

the child is a mouth-breather, for in these cases when a baby is asleep on its back the tongue often cleaves to the roof of the mouth, and after a rapid cyanosis there will be a convulsion, sometimes ending in a fatal attack of laryngismus stridulus.

One of the most marked symptoms is the change in the voice. The pitch is lower than normal. The tone is impaired and coarse, with an inability to pronounce the nasal consonants. You may easily demonstrate this for yourself by having one of your young patients recite the familiar nursery rhyme of "Little Jack Horner." Their best effort will somewhat resemble this:

*Litta Jack Horder sat id a corder eatig a big plub pie,  
He stuck id his thub ad pulled out a plub ad said what a great boy ab I.*

Stammering and stuttering have also been observed<sup>11</sup> associated with this condition, but whether it has any definite connection with it or not I have been unable to learn.

What effect mouth-breathing has on the mental condition has long been the subject of deep investigation. McDonald<sup>12</sup> reports that in 1890 he visited the Earlswood Asylum for Idiots in England, and examined 213 of the inmates, and found but thirty-three mouth-breathers. Snoring was only occasionally observed. Other careful investigators have verified this by repeated examinations, thus confuting the statement of some authorities that nearly all idiots and imbeciles were mouth-breathers and snorers. Without doubt we will find a great many cases which are sadly mentally deficient, though not idiotic, to whom school and studies are a purgatory; but this, I think, is due not to the condition itself, but rather to the lack of good home training. When children are backward or retiring in some families, they are neglected altogether. Lately, I have had four little boys, all chronic mouth-breathers, who were remarkably well advanced in their studies and who gave evidence of considerable mental activity. Unlike the great majority, however, these cases were in families where much attention was given to instruction and training along physical and intellectual lines.

The moral effect in children is slight, if any. We all inherit a disposition to break good rules, and "boys will be boys" whether they are mouth-breathers or not. In adults there is a marked depression sometimes amounting to a melancholia.<sup>13</sup>

The physical effects are the most important. Loss of sleep, if existing long enough, will produce insanity. In about three cases out of a hundred the body will be well nourished and the

general health good; in the rest there is no organ in the body which seems free from disturbance. There exists a susceptibility to coughs and colds as well as catarrhal inflammation of the gastro-intestinal tract.

"Great embarrassment of the respiration" says Bishop,<sup>24</sup> "may seriously interfere with the general health, and in those with a tendency to rickets, the chest-walls may become deformed, resulting in pigeon-breast."

Likewise we frequently see highly arched palates in chronic mouth-breathers.

When the obstruction is purely nasal, asthma may be a result. Where a person is breathing air that is dry, cold, and full of impurities for years, the ultimate result on the lungs cannot be other than injurious. Still we observe the immunity with which a person can wear a tracheal tube without contracting tracheitis or bronchitis for a long period. As a rule though, the chronic mouth-breather is subject to all the catarrhal conditions that can exist in the upper air passages and all the way down to the bronchioles.

One of my cases, with a deviated septum, who could breathe only through the lower portion of his nostrils, was in the habit of constantly calling into play the little muscle with the big name,<sup>25</sup> and thus making grimaces during ordinary quiet respiration. If he did not elevate his alæ he would have to open his mouth. Judging from the amount of motion he could give the wings of the nose, the little muscle must have been remarkably well developed.

The outlook for these cases depends on the extent of the existing predisposing and exciting causes. Jeffry<sup>26</sup> is authority for the statement that "there is more fatality among mouth-breathers than those who have the power to bring into play properly the functions of the nostrils."

The correction of this condition is a subject that would form a basis for a paper in itself. Various methods in various hands have alike been successful. Carefully examine every case and find out all the pathological conditions present, and then use your skill. Every abnormality must be rectified or you cannot hope to obtain a good result. We frequently see cases that continue mouth-breathers after operation, but this is due to one of two things: the operation was not thoroughly done, or if done thoroughly, the operator overlooked some other pathological condition. I have had one case of my own where I operated.

four different times on as many different abnormalities before I was able to stop the mouth-breathing.

If the nasal chambers and the pharyngeal vault are cleared of obstructions, the hearing will improve with the re-establishment of atmospheric pressure behind the depressed drum-membrane; dyspepsia and indigestion will disappear when the patient is enabled to thoroughly masticate his food; the singing voice will be raised in pitch and quality; the catarrhal conditions of the upper air passage will become a memory, and with peaceful sleep, the improved mental, moral, and physical condition of your patient will give to him a new lease of life.

In conclusion let me urge you to be ever on the watch for this condition; recognize immediately the trouble and all the trouble, and use any of the highly scientific and satisfactory means to cure it. If you do this your young patients will go through the diseases of childhood without serious inconvenience, and barring accident, will live to bless and thank their good, kind doctor.

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## DISCUSSION.

Charles N. Cox: Mr. President and gentlemen:—Dr. Bowen has given us a very complete paper on a very interesting and important subject; a subject probably that does not always receive the attention that it deserves, if we can judge by the number of cases that one sees of marked mouth-breathing that seem to have been overlooked, or to have received no attention whatever.

Dr. Bowen has very exhaustively gone over the causes of mouth-breathing so that it would be almost impossible to name any additional obstruction which is the cause of mouth-breathing. He has also, I think, very properly differentiated between the two classes of cases which cause mouth-breathing, namely, those of obstruction in the nose itself, and those further back than the nose, in the nasopharynx or possibly lower in the pharynx; and he has also very properly drawn this distinction—at least I understood him to, and it is my belief that the most common cause of obstruction in young children is located in the nasopharynx, and in that cavity the most common cause of obstruction is, of course, adenoid vegetation. Where there is mouth-breathing in adults we will more often find the cause in the nose itself, and there it may be due to a deflected septum, enlarged turbinated bodies, polypi, or any neoplasm filling the cavities, foreign bodies, etc., or in fact anything which may cause a lessening of the caliber of the nasal passages.

The effects of mouth-breathing we all know, if we do not always heed them. The doctor has also gone over that subject very carefully, so that it is only necessary to make mention of the fact. I believe the doctor, however, did not speak of deformity of the chest due to mouth-breathing, but I shall only allude to that, for there will be others, probably, who will speak more particularly of that condition.

I think a very large proportion of the ordinary catarrhal inflammations of the larynx is due to mouth-breathing. When we consider that the very important function of the nose, aside from olfaction, which is really of secondary importance, although usually looked upon as of first importance—that the nose is of first importance as a respiratory organ; and when we remember that the nose filters the air, moistens it, and warms it, then we may know that when air does not pass through the nose the person is breathing unfiltered air, unwarmed air, and unmoistened air. The pharynx and larynx then attempt to carry on those

functions of the nose which I have named and an abnormal amount of water is abstracted from the mucous membrane, which is not used to that sort of work, and we have resulting dryness.

There are two or three things that I just wish to mention in regard to the diagnosis of mouth-breathing. It is not every person that goes around habitually with the mouth open that is breathing through his mouth. There are some cases in which the mouth is held partially open, that do not breath through the mouth, for while the mouth is open and the lips are parted, the tongue is arched up against the soft palate, so that no air enters in that way.

It is a very difficult matter to ascertain whether or not such a case be breathing through his mouth, which is open, but if you see the tongue arched up firmly against the soft palate, the presumption is he is not breathing through the mouth. Then again, on the other hand, patients may have the mouth firmly closed—that is digressing a little bit from the subject, but it is apropos—patients may have the mouth closed and not be mouth-breathers and yet not be getting all the air they should through the nose; for sometimes there is a slight nasal obstruction and the patient, at least during his waking hours, manages to force air through the nose to supply his needs to such an extent that he gets along, but when he falls asleep his mouth may be open, or if not—especially in children—he may snore. Snoring is—and certain people snore even with the mouth closed—due to nasal insufficiency and a forcing of the air through the nose, which is narrowed by some obstruction.

There is one other point I would like to speak of, and that is the feeling of suffocation that some people have where there is no nasal obstruction. You will see it frequently in cases of atrophic rhinitis where the caliber of the nose is abnormally enlarged and you can look through the nasal passages and see right back into the pharynx. One would think the feeling of suffocation would be least in such cases, but I have noticed, and it has impressed itself on me very vividly, the fact that many of those patients have as a prominent symptom a feeling of nasal obstruction, a feeling as if they were not getting enough breath. I do not know how to account for it except that it is supposed by some physiologists that the turbinated bodies do have somewhat the same effect upon the air as the lungs, and that oxidization of the blood does take place in the nose by means of the turbinated bodies.

If that be so, that might account for the feeling of suffocation where the turbinated bodies are atrophied and have lost this function.

Of course, as the reader of the paper has said, when we have found out the cause of mouth-breathing the thing of next importance is to remove it, whatever may be the cause.

There is one point in which I will have to take issue with Dr. Bowen, and that is the statement that he makes that where mouth-breathing is not stopped after the operation for adenoids, where the patient does not breathe freely—that is the way I understood him—very soon or immediately after the operation, the operation has not been completely performed; he also says, however, that there may be other causes of obstruction that have been overlooked. While, of course, that may be so in many cases, yet I think there are many cases where mouth-breathing is not stopped immediately after the operation, although there may be plenty of room to breathe through the nose and nasopharynx, and that is due largely, I think, in those cases, to a paresis of the palate due to prolonged pressure from enlarged tonsils and adenoid vegetations, and that, in time, can be overcome; but there are quite a good many cases of mouth-breathing in which normal respiration is not immediately established after the operation, although, in most cases, very much to our gratification, it is. We see, and the friends of the children see, immediately after the operation, before recovery from the anesthetic, that the patient is lying with his mouth closed, as he has never done in his life before.

Dr. J. A. Blake: It is rather late to discuss this subject further and we have already heard it almost exhaustively presented, but I would like to call attention to one or two varieties of mouth-breathing.

Who has ever seen a case of typhoid fever extremely ill who has not seen a typical case of mouth-breathing; when the patient is lying there with the membranes of the throat parched and dry and the mouth open, and at the same time there is no more obstruction there than before the patient was taken ill.

Again, we have cases that strike us as a little curious, the principal obstruction being at night. For example, in the early part of March I operated upon a child and removed a couple of tonsils which were exceedingly large, and I claimed there was nothing else the matter with the child and that there was no other cause for the difficult breathing. We had to wait some

time to see the result as the child developed scarlet fever two days after the tonsils were removed. Previous to the operation when the child was sitting up the tonsils fell forward and there was not a particle of obstruction to the breathing, and the child sitting before me with mouth closed breathed as normally as any child. As soon as the child lay down on its back it found it necessary to use its chest muscles and breathed through the mouth with a good deal of effort. After the tonsils were removed and the child made a fair recovery from the intercurrent attack of scarlet fever, the whole difficulty passed away and the child is now breathing with perfect ease, although nothing has been done except to remove the tonsils. I have seen similar results in a number of cases but that was one of the most marked.

One of the causes of mouth-breathing to which I wish to allude, which, perhaps, has not been so fully touched upon as it might have been, is apparently a vasomotor paresis of the erectile tissue of the inferior turbinated structures. It especially occurs in students. I have found it more frequently and seen more of it in the student class than any other. My attention was first called to it when I was working in Manhattan, seeing student boys and girls about fifteen or sixteen years of age coming there with turbinateds in a state of almost constant congestion. It would be first one turbinated and then another, and you will often hear that complaint: "I can breathe through my nostrils alternately, but not both at once"; and that seems to be especially a student complaint. I have had a large number of such cases among students, but I have hardly seen any among any other class. You say cauterize. That is what our nose and throat surgeons are prone to recommend—pass the cautery along those turbinated bones and tie the tissues down. I did it and I found it necessary to about destroy the erectile tissue to have it sufficiently tied down and I have almost given up doing so.

I am satisfied that by treatment of the patient's general health mouth-breathing of this variety will be relieved and not until then.

Dr. W. C. Braislin: I have been much interested in Dr. Bowen's paper. The fact that mouth-breathing is always worse at night has just been referred to by Dr. Blake. This is so both in the case of children and adults, and is due to the fact that the blood gravitates to the head with greater ease when the body is in the recumbent posture. The soft tissues involved in diseases of the nose and throat are particularly affected by a partial venous



stasis, and if the disorder is located in the nose, the lower turbinates swell under the increased venous pressure; if the disorder is due to pharyngeal adenoid tissue, this will swell and cause the child to snore.

The etiology of adenoids is a subject that has always interested me. Considerable study of the question has led me to believe that there is a factor in it not frequently referred to, namely, inheritance. The ground for regarding inheritance as a factor of considerable importance in the etiology of adenoids lies in the frequency with which we meet with adenoids in several, sometimes all, the children of a family. I saw to-day at my clinic in the Eye and Ear Hospital three children of one family all with running ears and all suffering from adenoids. Someone has made the assertion that a contracted form of the mother's pelvis by prolonging labor and unduly continuing the venous engorgement of the head (and adenoid tissue) of the child about to be born, has an effect which promotes the development of adenoids in all the children of the family.

But in studying the etiology of inheritance as regards diseases of the ear and throat I have noticed that in my own cases the children have inherited diseases of this class fully as often from the father as from the mother. Repeatedly we glean histories of ear diseases running in families, which in the cases of the children are certainly due to adenoids; and the probability is that in the father or the mother the ear disease has also been due to adenoids.

Adenoids are only a factor in ear diseases; but beginning with adenoids a child contracts some acute infectious disease and the chain necessary to the establishment of an ear disease is then completed.

Bad air—impure from any cause—is irritating to the tissues of both the nose and throat, and given a weakened condition of the tissues of the lower turbinates or of the pharynx, any irritating factor will cause them to swell and obstruct the passages.

There is one more point I should like to refer to and in which I do not altogether agree with Dr. Bowen. The doctor said that after the removal of adenoids we had good breathing and the hearing returned to normal. In many cases the removal of adenoids alone will not bring about these conditions. In cases where there is chronic suppuration the removal of adenoids will not cure the chronic suppuration; the suppuration will frequently

continue and will have to be treated until it resolves by other means.

There is another thing that we shall always have to count upon, one that has occurred several times in my experience, that in cases of so-called recurrent suppuration—intermittent earache and discharges from the ear—the ear will frequently pain and later discharge for a time, following the operation for the removal of adenoids. It is, therefore, good practice to warn the parents of the likelihood of such an event, which, while it does not always happen, does so at times. This complication and all chronic ear disease must always be treated, perhaps for only a short time, but always for a greater or less time after the removal of adenoids.

Dr. Geo. A. Evans: One point that has occurred to me is that a great deal has been said in reference to mouth-breathing as it occurs in subjects who are affected with nasal or nasopharyngeal disease, but nothing has been said with reference to mouth-breathers who are such from habit. A great many children become mouth-breathers because it so happens that the upper lip is unduly short and it requires a constant strain to keep the mouth shut. Breathing cold air and dust through the mouth produces sooner or later catarrhal affections of the upper air passages; especially catarrhal affections of the nasal passages. I do not know whether these affections start from the posterior nares and travel forward or not, but it is a very common thing to see little children on the street and at school the subjects of a nasal discharge. I have seen a great many of them who in other respects were free from disease.

The posterior wall of the pharynx has, as we know, a double set of lymphatics, a deep layer and a superficial layer. Little children suffering from catarrhal affections of the upper air passages, especially the pharynx, who occupy the same quarters with a mother suffering from tuberculosis, that mother having the disease for two, or two and a half, or three years, become affected with what we call latent tuberculosis. That is, the bacillus in the form of dried sputum is inhaled by the little ones through the mouth, these become impacted in the folds of the mucous membrane and are finally taken up by the lymphatics, especially if the mucous membrane has been denuded of epithelium. We know that in order to set up tuberculosis the bacillus requires a quiet resting place where it will not be disturbed for approximately twenty days. Now, there is no place so favor-

able to secure such a state of affairs as the lymphatics. Enlarged lymphatic glands result and they may suppurate or they may not. We used to call this condition scrofula or struma and the like; it is, however, a tuberculous adenitis. The tubercle remains quiescent until the child reaches adult life, when the first time the vital forces are lowered from any cause, we have a proliferation and softening of the tuberculous tissue.

Some years ago I saw a number of Indians and I can readily recollect that many of them were mouth-breathers. One thing that may perhaps favor the Indians is that they are not subject to the dust of cities as we are, and, as we all know, a great many infectious diseases are set up by micro-organisms which gain entrance to the body through the respiratory tract. It is practically impossible for them to get into the body through the nasal passages if they are normal, mouth-breathers inhale them and if predisposing factor is operating at the same time, it is not at all strange that they should become subjects of infectious diseases.

The mouth-breathers' chest is somewhat different from the form of chest which occurs in children as a result of nasopharyngeal lymph adenoids. In ordinary respiration children and young adults are pretty apt to use only those respiratory agencies which are found to be the least laborious, and abdominal breathing is the least so. The superior costal respiration is most difficult and tiresome. In mouth-breathing the air passages and the lungs are filled so rapidly and so readily and with so little effort that abdominal breathing is apt to be indulged in, in such subjects the apices become flattened from lack of use. In cases of obstruction of the nasal passages and pharynx we have a sinking in of the inferior costal portion of the chest. This is due to the fact that the caliber of the nasopharynx for the passage of air is so reduced that the inspiratory muscles operating powerfully suck in the lower ribs. If the upper air passage, that is the space for the passage of air into the trachea, is sufficiently large, then the whole power is exerted upon that column of air, but if the air does not pass in rapidly enough a portion of this power is exerted on the lower ribs and in that way the depression results. My attention has been lately called to cyclists, particularly those who sprint, riding rapidly especially on an up grade or on a road that is sandy, they almost all of them open their mouths; not because they have nasal obstructions, but because the nasal passages themselves are not sufficiently roomy to admit of a sufficient supply of air for the

work they are doing. I have seen a number of cases of pulmonary tuberculosis which have occurred in what are called "sprinters"; in very powerful young men, which no doubt have been the result of mouth-breathing occasioned by rapid riding through dusty streets, as I have described.

**Dr. Bowen:** Mr. Chairman:—Owing to the lateness of the hour I will be very brief. In the beginning, permit me to sincerely thank the Society for the courteous reception my paper has received. Although I tried, for the last three or four weeks to cover the entire ground to which my subject relates, I am happy to be able to say to-night, that the remarks of my colleagues are indeed valuable and highly appreciated by me, for I have learned much from the discussion that literature and practical experience failed to teach me.

**Dr. Cox** brought up the much-disputed question of pigeon-breast deformity and the relation it bears to the occurrence of adenoids. I accept the opinion of Bishop, in that he associates pigeon-breast with rickets, and does not regard the adenoids or mouth-breathing as bearing any relation primarily to the etiology of this deformity.

Another important point in the discussion of Dr. Cox was that sometimes after the removal of adenoids the condition will not improve. This means that there must have been other causes for the mouth-breathing as well as adenoids—which were not corrected—a point which I emphasized in my paper. In adenoid cases of long standing the turbinate bones hypertrophy from the lack of air pressure. The blood-vessels dilate, engorge, and the mucous membrane thickens. Thus we have a narrowing of the nares which is not temporary. Even if the adenoids are removed, if this condition is not corrected also, there will be no improvement in the case.

Referring to Dr. Braislin's remarks, brings clearly before my mind four cases of adenoids which I saw two years ago in the same family. Two of them had ear trouble after the operation, and the other two gave me my inspiration to describe the good effects that should follow the correction of this condition. I trust it will be understood that I claimed those same good results, not from the removal of adenoids—but from the correction of the condition of mouth-breathing. If the simple removal of adenoids will correct mouth-breathing in a case, then good results will follow—if not, then some other cause must be found and removed. So you see the importance of recognizing all the pathological

elements present, so that they can be attended to at the one operation.

Dr. Evans has mentioned a class of cases which I did not consider, simply from the fact that my paper, from a special standpoint, could only consider those cases in which there was a mechanical obstruction to respiration through the nose, from some cause within the domain of the nose and throat.

I am deeply grateful for the attention you have given me, and in closing I desire to thank our honored President for allowing me to ramble at will through his extensive library.

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## THE TREATMENT OF HEMORRHOIDS.

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What is the best treatment of hemorrhoids is a question which forces itself on the attention of every Fellow of this Society, and that frequently. I have tried different methods, and what I say to-night will relate chiefly to my individual experience. For some time past I have confined myself in my operations to the galvano-, or Paquelin cautery. To my mind, and for reasons which I will briefly state, I regard it preferable to any other method which I have employed. I have never used the method—once so much in vogue and still in use—that of injection of carbolic acid. The risk of sloughing and embolism seem valid reasons for its avoidance.

The time-honored usage of the ligature has serious objections. Death has been known to follow their use from phlebitis and sepsis. Pressure induced by the ligature causing compression of nerve filaments is a source of great suffering. The sloughing away of these same ligatures has its disadvantages.

A method which avoids these annoyances and risks must make claim to our serious consideration, and is worthy our attention.

It is not vital which cautery is employed, the galvano-, or the Paquelin, always remembering how easily and unexpectedly

cautery apparatus refuses to do its work at the critical moment.

A second instrument at hand will sometimes prevent exasperating annoyance, and perhaps failure. Having decided in a given case that rectal hemorrhoids require surgical interference, care should be taken in preparation of the patient. The parts should be shaven and sterilized. For at least two days previous to the operation the bowels should be thoroughly emptied by the administration of salines, which one I am not particular, only that they are efficient. The rectum may be irrigated two hours previous, care being taken that all the fluid has escaped, otherwise the operator may have cause for regret. When the patient is thoroughly anesthetized, stretch the sphincter and muscle sufficient to paralyze its contractility, but do not rupture it. Grasp each dilated vein with a clamp and slowly burn it off, taking particular care that the knife is not too hot. Dr. Skene's clamp is well adapted for this purpose. If the burning and cooking of the tissue are too rapid they increase the liability of the blood-vessel to loose the plug of coagula, and so induce hemorrhage. Treat in the same manner any old coagula or exudations in the submucous tissue and all muco-cutaneous tabs.

After-treatment consists in keeping the patient in a horizontal posture and the daily administration of a saline; not to keep the bowels active with watery stools invites suffering and seriously retards convalescence. Unless there is some searing of muco-cutaneous surface, it is a matter of surprise how nearly painless is the stage of recovery. If pain is present an anodyne rectal suppository is indicated. From ten days to two weeks usually suffices. True, some may call this crude surgery, and on looking at the somewhat ragged appearance of the parts at the close of an operation one might feel skeptical as to the results. Actual practice dissipates all such forebodings. I have never met with hemorrhage succeeding an operation.

Should it chance to occur, the rectum should be packed with gauze, placing the distal end of the gauze at the bleeding-point.

To my mind, the advantages of this method are: It closes the lymphatics and is not followed by sepsis; the pain and discomfort are reduced to the minimum, usually practically painless; the convalescence is the most rapid, and the results the best attainable. As to the technic, it is not altogether perfect, and an honored Fellow, our ex-President, Dr. Skene, has kindly consented to discuss and in some degree demonstrate his own im-

proved method of controlling hemorrhage in operative procedures, which is apropos to this topic.

#### DISCUSSION.

Dr. A. J. C. Skene: All that I have to say in regard to the paper of Dr. Chase is that I fully endorse everything that he has said, and that I have had similar experience and satisfaction from this method of treating hemorrhoids. The great object to be attained in the operation is to reduce the base or stump of the excised hemorrhoid to the smallest possible size, and to leave it in a condition where the tissues will remain held together until healing takes place. I mean by that to keep the stump from separating, spreading, and leaving a large surface to heal by granulation, and after some long-continued suppuration. The other point is to make sure to close not only the blood-vessels to prevent hemorrhage, but to close up the lymphatics so that absorption will not take place. For a long time I employed a clamp that reduced the base of the hemorrhoid to the smallest possible size—a sort of an *écraseur* clamp—and then put a tight ligature around it and excised the hemorrhoid. I then gave that up for the cautery, and I found only one difficulty in the technic, and that was this: that the forceps used to hold the base of the tumor while using the cautery spread the base out too much and left a long strip of cauterized tissue that was very apt to separate. Usually it separated unless the heat was applied long enough to the forceps to desiccate or dry the stump—that portion within the grasp of the forceps. I tried to improve on that by the forceps which I will show you. In the demonstration the electrician, Mr. Pignolet, has consented to help me.

First, I show you the forceps which answers a very good purpose. It is hinged at the point and arranged with a notch so as to prevent the pedicle from spreading. The hemorrhoid is seized and drawn upward so as to form a pedicle, the forceps is applied and locked and strong pressure made to bear upon it; then the electric current is passed through to dry and thoroughly desiccate the stump, so when the forceps is taken off it will not separate, and in that way the stump is reduced to a minimum of width and thickness. I have found in the use of this instrument that I could experiment on dead tissues to my entire satisfaction. [The speaker then exhibited the forceps and battery and proceeded to demonstrate on a piece of raw beef.]

I will suppose this is a hemorrhoidal tumor which I seize and

draw up, and then throw this forceps around it and crowd it in, and then turn on the current. It requires anywhere from a half a minute to a minute to do the work. By keeping the forceps a little way from the tissues, by traction, the heat does not extend so as to injure the tissues below, as a rule, but it is safer while operating to have a piece of horn or hard rubber with a notch in it to slip underneath so as to protect the rest of the rectum thoroughly and completely from the heat. [Removes forceps from the experimental hemorrhoid, the stump sticking somewhat to the blades of the forceps.] A little vaselin, which I forgot to use in this case, prevents the tissue from sticking to the blades of the forceps.

I think I can show you here that the heat is all sufficient to desiccate, and does not extend to or burn the other tissues even if you do not protect them, but it is safer to protect them. You see, here is the stump, and if you look through it it is perfectly translucent and perfectly dry, and I find that is about the average size of the stump that I get. It does not spread out. I dilate the sphincter, and by the time the sphincter has regained its tonicity the stump laps over and does no hurt.

I will now make this piece of beef represent the broad ligament in a case of vaginal hysterectomy, and I wish to show you the use of this clamp for that purpose. [Exhibiting.] It is the same in form as the ordinary hysterectomy clamp forceps. When the vagina has been separated from the uterus anteriorly and posteriorly, the forceps is slipped up on the ligament and closed in the ordinary way (just as in those cases where they leave the forceps on to control the arteries, as in the French operation); leave it on for two minutes, and then separate the uterus from the ligament. The extent to which the thickness of the tissues can be reduced is here shown. The size of the pedicle can be reduced from three-fourths of an inch to one-sixteenth of an inch. In treating the pedicle in ovariectomy or salpingo-ovariectomy I had this clamp forceps made for the purpose, and it is very easy to catch up the pedicle in this forceps, shut it and lock it and then apply the heat. It is a very satisfactory instrument; it is so easy to use and also to take apart and clean. This specimen shows the condition of the broad ligament afterward. The stump is perfectly dry and translucent.

Dr. Dickinson: That cooked edge does not soften. I experimented with a number of them and kept them in water until they rotted, and yet the stumps did not soften or open or separate.



Dr. Skene: I had my doubts as to how long the tissues would remain glued together in that way. I did not know but what they might separate when they became moist in the closed wound, but I found clinically that no separation took place. I am now having a series of experiments going on in the laboratory regarding stumps treated in this way. It has always been a question how the stump was disposed of. In the first place, there is far less material to dispose of than in any other way of arresting hemorrhage. I made a little estimate, and I found that the amount of desiccated or dried tissue left in a stump of a broad ligament or in an ovarian pedicle to be disposed of was not more than the amount of dead tissue in a catgut ligature, and it was in a position to be better taken care of than the ligature; so that there is very little tissue to be repaired and the question is what becomes of it. I asked Keith about that, and he said he did not know; that he had never had an opportunity to make a post-mortem to see what became of it, but he knew that it never gave the patient any trouble or the surgeon either. But, as I was saying, we have undertaken recently some experiments. Dr. Wm. Skene some three or four weeks ago did double ovariectomy on two canine clients, and Dr. Seymour made a post-mortem on one in four days and on the other in eight days. The findings promise to solve the problem of repair in a satisfactory way. The question in my mind was how the stump was taken care of. First, I presumed that it became hydrated, and then underwent a certain degree of softening and degeneration, and was absorbed. Another idea was that it might be revitalized by the development of blood-vessels running into the stump after it had become hydrated; that it might be vitalized in that way. A blood-clot may become organized in that way, and Dr. Seymour is just now examining specimens, and his findings show the possibility that reorganization is what takes place. I saw a number of slides from the stumps removed on the eighth day, and I could distinctly see the loops of blood-vessels dipping into the original tissue, and in the case where the examination was made on the third day, the microscopic slides showed the stump to be a perfectly homogeneous mass without the slightest trace of any kind of structure; so thoroughly had it been dried or changed by the heat that it was thoroughly homogenous—no trace of any structure in it anywhere in a number of slides. Taking that into account, and in connection with the other one which lived for eight days and showed blood-vessels running into it, would sug

gest the nature of the process of repair. But that is off the subject under discussion. The question is what becomes of the stump here in cases of hemorrhoids treated according to the method advocated by Dr. Case? I have had opportunity to watch them very closely, and have made it my business to examine my patients more often than before to see how they recovered, and I find the stumps do not spread out, but soften and separate, and the separation does not take place until the tissues beneath are sufficiently healed, so that when the stump comes away, as it does in anywhere from three to five days, they do not tear apart when the bowels move. I have adopted a little different plan from Dr. Chase in the way of managing the bowels. I make it a point to thoroughly empty the bowels twenty-four hours before the operation, and then a few hours before the operation do as he does—wash out the rectum, and then keep the patient on a liquid diet for about three or four days, and then move the bowels with a saline on the third day. This gives thirty-six hours more time for the healing process to begin at the base of the stump.

The point I wish finally to call attention to is absence of pain. I have found that there was less pain after this method of operating than in any other I have ever tried, and I have tried all, including Whitehead's operation, and the cautery as Dr. Chase uses it, and the ligature, and I have also tried the injection of carbolic acid. After all of these methods of operating pain has always been a marked feature, and sometimes it has been exceedingly severe. Some of the patients suffer intensely, and then, too, when the hemorrhoid separates, and the ligature comes away there is a larger space to heal than there is in case of using the electro-cautery clamp.

I have, perhaps, wandered a little from the text of the subject, but I did so because the thing is somewhat new. I might say that for this instrument and all others of this kind, I am indebted to our friend Mr. Pignolet, and I do not think there is much room for improvement either in the hemorrhoidal clamp or the ovariotomy clamp.

If you will allow me, I shall call attention to one very important fact mentioned by Dr. Chase, *viz.*, that this is the only method of amputating anything that has a pedicle or stump which closes the lymphatics and prevents septic absorption. For a long time Dr. Byrne insisted upon it that after his operations for cancer of the uterus there was no rise of temperature. I have

operated in other ways many times without the cautery, and I always had a rise of temperature, but when I operated as Dr. Byrne directed there never was any rise of temperature or any pain unless I had the misfortune to injure the vulva with the cautery rods. There is no rise of temperature because the lymphatics are all absolutely closed, and there can be no absorption of septic material. That thoroughly and completely prevents it, and it is the only way that it can be prevented. Then with reference to pain. The absence of pain is due to the fact that the tissues are completely destroyed. Every bit of vitality is squeezed and roasted out of them, and the line of demarcation in the nerve-tissue between the dead tissue and the living tissue is a narrow line and nothing more. You never can, with a ligature, so completely devitalize the nerve as to prevent pain. That is a very important point. I remember when talking with Dr. Battey, in a discussion we had once about the cause of pain in stumps after ovariectomy, I advanced the theory that it was because we were afraid of breaking our ligatures and did not tie the stump tight enough to thoroughly benumb it and destroy the nerve-supply, and he agreed to this, adding that those cases in which he had the most violent pain afterward were the cases in which he was unable to tie the ligature as tightly as he wanted to, although tightly enough to control bleeding.

Then there is another point which is perhaps more valuable than all. It has been recently noticed in appendicectomy and salpingectomy that in using the ligature the lumen of the appendix or the tube is never closed; the ligature cannot close it, and hence in removing the tubes or appendix, secondary abscesses, or secondary inflammation may come on anywhere from three weeks to three months after. A number of cases have been collected by Rich of the Post-Graduate School, Chicago, that show those conditions post-mortem as well as in the living subject, and he claims, and I am sure he is right, that it is due to the fact that when the stump separates the lumen of the tube is left open, and that the septic material (especially if there is a good bit of tube filled with septic material, as there usually is between the point of excision and the uterus) will find its way out on the peritoneal surface and cause secondary inflammation. Moreover, a number of cases are recorded of fecal fistula caused by failure of invagination or the ligature to completely close the lumen of the appendix. Dr. Laphorn Smith of Montreal adopts this plan—he lifts out the appendix and clips it off close to the intestine, leav-

ing an opening in the bowel, and then closes it, and gets better results than when he used the ligature or invagination. I have attained the same end by applying the forceps close up to the intestine, and then exsecting the appendix, and so far have seen no suggestions of any reopening of the canal.

That is all outside of the question, but related to it. In cases where the hemorrhoidal mass completely surrounds the lower edge of the rectum, I seize a small portion at a time in the clamp, going all the way round, always trying to leave a little of the tissue between each stump and its neighbor, so that one stump does not run up close to the other. That is done to avoid the great objection to Whitehead's operation, that when you exsect the entire lower portion of the rectum, unless immediate union follows, it leaves a stricture, but by operating on the hemorrhoids and leaving even a small piece of mucous membrane between the masses, no stricture follows. It stretches, and it takes on healthier action afterward. I sometimes tie off the more prominent ones and leave between each stump some small hemorrhoids and a bit of normal mucous membrane and have had good results. I have also observed that having tied off the larger ones the stretching of the mucous membrane would diminish the size of the smaller ones and I might leave them and yet have a very good result.

Dr. J. W. Hyde: There is one little point that has not been referred to here particularly to-night. If there is anything that disturbs us, or rather our patients, after operation for hemorrhoids, it is the amount of extremely acute pain that is likely to follow, especially when it is time to open the bowels, and even many times prior to that, because we know how common it is for the intestinal tract to become very full of gas, particularly after taking an anesthetic. The gas will gather in the rectum and be exceedingly annoying to patients, and they cannot pass it because they have that fear of pain produced by a slight contraction of the sphincter, which in itself is sufficient to make them keep the gas there, thereby producing considerable discomfort. I think it is Matthews who formed the plan of taking a rubber tube about as large as the little finger or smaller and winding around it some iodoform-gauze and leaving that in the rectum. This serves a double purpose. When you have wound the gauze around the tube it is nearly as large as one of your fingers, and acts by pressure to prevent any possible hemorrhage; and, in the second place, through the tube pass off all gases

that collect in the rectum, relieving the patient of the particular discomfort. I have had no trouble at all in removing this little tube, which is about four inches long. At the end of the third or fourth day it can readily be removed, and more so if the sphincter has been dilated beforehand. The presence of the tube affords relief, the pressure prevents hemorrhage, and it is a thoroughly aseptic way of leaving the wound.

I have operated in about every way that we have been accustomed to use for a quarter of a century on these cases, with ligature and with galvano-cautery, and while I believe everything that has been said in regard to the value of the galvano-cautery as preventing any possible sepsis, and of the clean character of the wound it leaves, I have of late almost abandoned that, and now use the clamp, cutting off the hemorrhoidal structure, and before the clamp is removed passing right in behind it, with interrupted sutures. When the clamp is removed the sutures are very easily tied, and bring the surfaces in close apposition. Within a week all those sutures come away by themselves. I always operate on my cases in this way. There follows not a particle of after-disturbance nor any pain even in an action of the bowels. I do not disturb the tube until the third day, and the patient has no discomfort in having an action of the bowels at any time subsequent. This method is to me much more satisfactory than the galvano-cautery or other methods. When I stretch the sphincter, especially if there is any ulceration in the rectum (and that we meet very often indeed), I do not hesitate to sweep around with a swab of pure carbolic acid right over the ulcerated surface. It cauterizes so quickly there is no absorption; it closes up everything, and always, I think, leaves a very much better and healthier condition of the canal afterward.

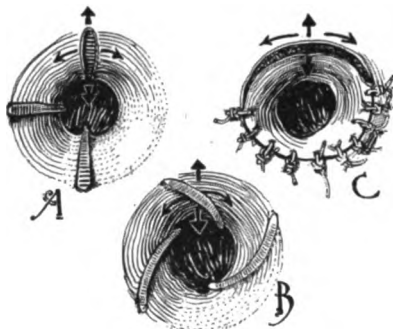
Dr. de Forest: I was in hopes that some member present would speak of the clamp that Professor Wight has devised for conditions which have just been described. I did an operation about two weeks ago, using Dr. Wight's clamp, which, as you know, has a blade about four inches long. The entire rectum was surrounded with a mass of hemorrhoidal tissue. I applied the clamp close to the gut-wall and cut off all of the tissue projecting above it, and then made a very loose, continuous suture as far as the clamp went; took away the clamp, and tightened and tied the suture. The bowels were cleaned out the day before and the rectum washed out immediately before the operation. The entire lower portion of the rectum was then tam-

poned with about five yards of strip iodoform gauze and this was left in place. The patient lived on a liquid diet for five days. At the end of that time the sutures came away and the wound healed by primary union; the gauze was then drawn out, and I gave a saline cathartic, moving the bowels freely. The woman had no pain and is now well. This method gives good results, but the one described by Dr. Skene will, I am sure, take precedence.

Dr. F. J. Shoop: I have used the clamp devised by Kelsey a number of times in connection with the Paquelin cautery, and have seen Dr. Chase use it. The first case I tried it on was one of the cases Dr. de Forest speaks of, where the hemorrhoidal mass was around the entire anus, and in that case I left nearly half of the mucous membrane, partly abnormal tissue; there was no stricture, and the results good. The patient had no pain after the operation; the bowels were moved the day succeeding the operation, and she said she had a great deal less suffering from it than she had had at any time for six or eight weeks previous to the operation. The next time there was no pain whatever. I have never had hemorrhage follow the use of the clamp, nor any pain in any of the other cases in which I used it. I have found it would once in a while stick a little in opening it, causing the tissue to separate, which, I supposed, was because I did not cauterize quite enough. I shall be glad to take advantage of the application of vaselin suggested by Dr. Skene.

Dr. R. L. Dickinson: I think we all agree with Dr. Chase that without doubt Dr. Skene's device is the ideal one, but in the past we have found the clamp and cautery fit more cases than any other method, although one is tempted to dissect out hemorrhoids and suture them, according to some French method, and to use Dr. Wight's toothed clamp, which I have seen him use with very comely result. There are two considerable faults, one of which has been mentioned, with the clamp and cautery. If you have a large base involving a considerable portion of the circumference of the mucous membrane, with the first movement of the bowel separation occurs, or when there has been placed a tampon pushed up into the bowel to prevent soiling of the surfaces during the operation, there will be some separation of the edges of the cauterized mucous membrane. However careful one may be to cook the tissues in order to make horn and not eschar; however slowly he may open the blades of the clamp and let go the tissues, a slight separation will sometimes occur.

I have thought that one could avoid it partly by making the line of bite a little different from the one in the long axis of the bowel. In the old Whitehead operation the line of united mucous membrane went at right angles to the long axis of the bowels. In the ordinary bite the scar runs in the long axis of the



Diagrams of scars or stumps after removal of piles, and the strains applied to those lines of union.

*A*, Ordinary seizure of forceps in removing pile, the tip of the clamp pointing directly in long axis of anus, three bites being sketched, the edges of the mucous membrane of the upper one having pulled apart as rectal plug is withdrawn or feces pass, leaving a fissure to granulate.

*B*, Oblique bite here advocated, as least likely to be dragged open.

*C*, Whitehead operation partly sutured. Circular line of union.

The stresses are two, *longitudinal*, in the axis of the anus, and *transverse*, at right angles to that axis. The longitudinal stress, shown by the stumpy arrows, and produced by the shoving onward of the mucous membrane or skin about the anus as a fecal mass makes exit, can have little hurtful effect on *A*, and much on *C*. The transverse tension, produced by stretching of sphincter by fecal mass, shown by the longer curved arrows, does no harm to *C*, but great hurt to *A*. The oblique bite, *B*, is least likely to be hurt by the combined strain.

bowel. Now, if we combine those two to make a diagonal scar there is less traction on the two edges of the scar when any stretching of the anal mucous membrane occurs, and I think less opening up, and consequently less fissure, less granulation, less of the after-discomfort, which is even more marked than the discomfort immediately following the operation. We hope great things from Dr. Skene's method because it is ideal in very many ways. I do not think beef is a fair test of his clamp, because the tissues—connective tissue—will shrink better, flatten better, and harden more easily than does beef-muscle. A grasp of nearly the same thickness in the broad ligament will, it seems to me, from a single case, become more tough and cut with more the

feeling of cutting the finger-nail, from a short grasp and moderate heating with that forceps than beef will. Just why I am not sure, except that you could not find probably a juicier and more resistant soft structure than beef-muscle.

Dr. Kortright: I would like to ask Dr. Skene how much and how strong was the current used?

Dr. Skene: Seven amperes. That question is very often asked me—how I know when I have heat enough. I have generally had the galvanometer there and Mr. Pignolet to run the battery, and he gives me the required degree of heat and the required length of time. By experimenting on tissue the same as I have done to-night one can learn the strength of current necessary to heat a forceps of given size. Then the length of time required comes by experiment, too. One could be perfectly safe in judging of the heat by the touch. The heat should never be above 180° or 190° at most; never 200°, because then it chars the tissues, and charring tissue is not a good way of stopping bleeding. I find by touching the forceps from time to time that I can tell about the heat required. I never have been obliged to have the current more than two and a half minutes to get the desired effect.

Dr. Dickinson: I would like to ask Dr. Skene if as between removing the stump of a diseased tube in the corner of the uterus he would rather exsect the tube or get apposition with this cautery and depend on that stump to protect the peritoneum from opening up as in these cases?

Dr. Skene: I depend entirely on this method of treatment of the stump; you can go close up to the uterus, closer than with the ligature. You can go as close as you please and close the tube, and it is impossible to have it open. Impossible, because the mucous membrane becomes so transformed that it becomes perfectly homogeneous. You know the stumps you have now in alcohol that you kept in water until they got rotten and yet they did not separate. And then, if you will allow me to answer the criticism of Dr. Dickinson—that is, I had the same difficulty, that whenever I separated the clamp I always tore the pedicle simply because I did not use vaselin on the forceps, and then I opened it wide apart at once. Now, I make it a point to be very careful to first open it enough to loosen it, and then pull or strip it off, and there is no fraying of the tissues when I do that. There is no need of it separating if you use vaselin and take it off in that way, but I sometimes now forget the vaselin, and yet by taking time



and stripping it off, by just loosening it, not pulling it apart, I can take it off without fraying, but the vaselin is a great aid and should always be used.

That is a capital idea of Dr. Dickinson's. There is no reason, in exsecting hemorrhoids in that way, why the transverse grasp should not be employed. I can see where it would have a decided advantage. In the next operation I do I shall pull the hemorrhoid down, and take it off not parallel, but transversely to the axis of the gut. I can see where that will prevent stretching when the bowels move.

Dr. Dickinson: I asked Mr. Pignolet what the expense would be of installing such an outfit in an ordinary hospital where there was an Edison current. Where they have the alternating current, as in New York, the expense is less, but in Brooklyn, with the Edison current, where they have to interpose a small motor, and then a transformer between the outlet and this instrument, including the three instruments, the outfit would cost about \$100. That question often comes up. However, it should be said that that outfit will run the electric head light, without which no man can comfortably work through a small hymen; will run the cautery with which we open Nabothian cysts, and remove caruncles; the cystoscope, and many other things.

Dr. W. B. Chase: There are two or three questions I wish to ask Dr. Skene in this connection.

First, the applicability of this instrument to abdominal hysterectomy the same as vaginal hysterectomy; and, second, what his technic is with that instrument in controlling oozing from superficial vessels or veins. These matters I would like to hear discussed by Dr. Skene before the discussion closes.

Dr. Joseph H. Hunt: In conversation with Dr. Skene a few weeks ago he told me something of what he was doing, but simply hinted that he was checking his hemorrhages with a variety of cautery. I accused him of going back before the days of Ambrose Paré, who abolished the cautery for the arrest of hemorrhage and substituted the ligature. I am always accused of bringing up history. I can say that the pre-Paré methods all involved the same cooking which we have seen here to-night and heard described. One of the prominent methods of arresting hemorrhage at that time in cavities or where they could not get at it with the cautery iron, was the use of boiling hot oil which they poured into the wound, and the first discovery of Paré that the hemorrhage would be arrested without the use of boiling

hot oil was due to the fact that they got out of oil on one battlefield and were compelled to let some patients go without having the oil poured into their wounds, and to Paré's surprise they did as well as the others, and the thought arose that if those cases of hemorrhage could be arrested simply by exposure to air, as it was believed in those cases, he could get along without the major operation of cautery. Before the days of Paré furnace and the cautery-irons always accompanied the surgeon in the battlefield, and you will recall the picture, which many of us have in our offices, of Ambrose Paré at the siege of Metz, where the furnace or brazier with the cautery-irons is seen standing beside the operating-table.

I have nothing to add to your discussion to-night, unless it is one point. Dr. Skene alluded to preventing the heating of the surrounding parts by interposing a shield of horn of something of that kind. I have used ordinary asbestos paper, moderately thick, which can be readily sterilized by passing it through an alcohol flame. I just cut a slit in it and pass that just beneath the clamp, and I find it to be a very ready method and easily applied.

Dr. Skene: If it is in order, I would like to say one word about the result of the Whitehead operation. I have seen three cases of Whitehead's operation where there has been complete incontinence, and an incontinence that could not be cured for the reason that the sphincter muscle had been removed. One of the cases I allude to is the wife of a distinguished physician. She came to me in the hope that I could do something for her relief, for she has just as perfect incontinence as any case I ever saw of complete rupture, and I found that the muscle was gone. The other case was the same way. That made me say good-bye to Whitehead. I shall never run that risk. I have two cases of my own where I attempted to do a Whitehead and found I could not separate the mucous membrane from the muscle, and so abandoned the operation and did the old one.

[With the aid of a diagram drawn by Dr. Dickinson, Dr. Skene explained the steps in the use of the clamp in vaginal hysterectomy, and how it might be used in abdominal hysterectomy.]

The checking of oozing from vessels deep down in the cul-de-sac is accomplished with another instrument. If after separating adhesions there is a spurting artery, I simply hold it for half a minute or ten seconds and it stops, and if there is much raw surface I use a little dome the size of the point of my thumb,

heat it in the same way as the forceps, and pass it over the raw surface.

If I am not keeping you altogether too long, I will tell you what gave me some confidence in this arrangement. I had separated a much distended pus-tube with bad adhesions, and I found I had torn the peritoneum off the ureter. I saw it lying there denuded of its peritoneal covering. I proved it was the ureter by pinching it a little and seeing it contract, and alongside of the ureter there was a little jetting artery. It was not much bigger than a housewife's sewing-needle, but it kept on bleeding. I tried to get a ligature around it, but could not get hold of it without pinching up the wall of the ureter. I caught it with the forceps and held it and stopped it, and that was the end of it. It is so much easier to seize it with the forceps and hold it from ten to thirty seconds and let it go than it is to put a ligature on down there.

Dr. Wm. H. Skene: Another advantage which Dr. Skene did not mention. Yesterday morning we amputated a breast, and with two smaller forceps stopped all the bleeding from the breast, just putting one on, and while I was holding that he would hold the other, and in that way we stopped the entire bleeding with the forceps, which is much easier than getting on a lot of ligatures.

Dr. W. B. Chase, closing the discussion: I have fulfilled my purpose. I am very glad for myself, and I congratulate you gentlemen that you have had an opportunity of hearing from Dr. Skene. I personally am under obligation to Dr. Skene for his having given us this information and this demonstration concerning the use of his discovery.

I think the question which was raised and the objection made to the Whitehead operation has been entirely met. It should become obsolete. It has been the cause of unnecessary suffering and annoying disability. I am conscious that in the method I have recommended the technic is not perfect, but we have learned to-night not only the ideal treatment of hemorrhoids, but the treatment of controlling hemorrhage which is simply invaluable. I believe that this method of Dr. Skene's is revolutionary in its character, and when the medical profession come to know of its value and its applicability the risk of surgical procedures as a whole will be very largely diminished, particularly those in which the question of controlling bleeding without ligature is of paramount interest, and those in which the failure to close the lymphatics exposes our patients to a great deal of danger.

## PROCEEDINGS OF SOCIETIES.

### MEDICAL SOCIETY OF THE COUNTY OF KINGS.

**704th** Regular Meeting, Held in Apollo Hall, November 15, 1898.

The meeting was called to order at 8.30 P.M., by the President, Joseph H. Hunt.

The minutes of the October meeting were read and adopted.

The Council reported favorably upon the following names:

John B. Busteed, P. & S., N. Y., 1892; Eugene A. Lynch, L. I. C. H., 1896; Aurelius de Youna, Bellevue, 1897; Harrison C. Allen, N. Y. U., 1897; W. Ross Martin, Omaha Coll., 1891; Alex. Clements, L. I. C. H., 1895; Edw. M. DeCastro, Jr., L. I. C. H., 1898; Joseph F. Long, L. I. C. H., 1895; Walter T. Slevin, L. I. C. H., 1898; Thos. J. MacFarlane, P. & S., N. Y., 1896; C. Le Grand Kerr, Bellevue, 1892; Corresponding Member, James D. Trask, Astoria, L. I.

#### APPLICATIONS FOR MEMBERSHIP.

Vernon E. Taylor, L. I. C. H., 1896, 102 Utica avenue, proposed by J. H. Hunt and Jos. Stivers.; Victor Neesen, L. I. C. H., 1896, 95 Sixth avenue, proposed by D. Myerle and J. H. Hunt; Chas. W. Harreys, Jr., L. I. C. H., 1898, 632 Bedford avenue, proposed by D. Myerle and J. J. Bowen; W. B. Snow, P. & S., N. Y., 1885, 160 Park place, proposed by Jerome Walker and J. H. Hunt; Edwin Thompson Randall, N. Y. U., 1898, 82 Lexington avenue, proposed by Membership Committee; Christian Edward Petersen, L. I. C. H., 1897, 91 Eighth avenue, proposed by Membership Committee; George H. R. Gorman, Univ. of Penn., 1898, Kingston Avenue Hospital, proposed by A. S. Ambler and D. Myerle.

The following having been regularly proposed and favorably acted upon by the Council, were declared by the President elected to membership: John D. Doyle, Edw. Parrish, Eugene Candidus, Rosalie Bell, Richard A. Henderson, Thomas A. Mylod, Leslie A. Turner, Levy Nieman.

The Historical Committee reported the death of Dr. Louis

Bauer, who had been a member of the Society from 1858 to 1868, and who was one of the founders of the Long Island College Hospital.

SCIENTIFIC PROGRAM.

"Static Electricity," by Frederick J. Shoop.

"Some Electrical Appliances," by Lucy Hall Brown. Discussion by Drs. Bartley, Evans, Briggs, Walker, and Snow.

Owing to the lateness of the hour a paper upon "The Effects of the Toxins of Pathogenic Micro-organisms upon the Parenchymatous Tissues," by J. M. Van Cott was postponed to another meeting.

The Committee on the New Building reported through Dr. West, its chairman, that the corner-stone of the new building had been laid and the process of erection was still going on. The ceremonies had been held in the auditorium of the 23d Regiment Armory through the courtesy of Colonel Smith. The Hon. Seth Low and the Rev. Dr. Storrs officiated, while the Rev. Father Malone was detained by illness, but sent his benediction. The Committee appealed to the members of the Society to organize and let each one of them secure at least \$50.00 from his friends or patients. If this were done, the completion of the building would be assured beyond peradventure. They further recommended that a vote of thanks be extended to Colonel Smith for the courtesy in offering the Armory to the Society for its entertainment on that day.

A motion was made by Dr. Bartley that the Report of the New Building Committee be accepted and that the Secretary be instructed to write a letter to Colonel Smith, extending the thanks of the Society for his courtesy on that day. Seconded and carried.

The President announced that a number of pamphlets containing a description of the new building, a reprint of Dr. Kortright's paper on the value of the physician to the public, and other interesting data, which were intended for distribution at the corner-stone ceremonies, were to be found in the ante-room, and could be had on application.

There being no further business the meeting adjourned.

ROBERT J. MORRISON,  
Asst. Secretary.

## BROOKLYN GYNECOLOGICAL SOCIETY.

*Stated Meeting, Held June 3, 1898.*

The Vice-president, Dr. W. H. Skene, in the Chair.

### PRESENTATION OF SPECIMENS.

#### PRIMARY CARCINOMA OF POSTERIOR VAGINAL WALL.

Dr. J. W. Hyde presented the specimen.

**This** specimen is presented simply on account of its rarity. It is a **case** of primary carcinoma in the posterior vaginal wall occurring at the fourchette. I believe that the frequency with which **this** **occurs** is only about one per cent.

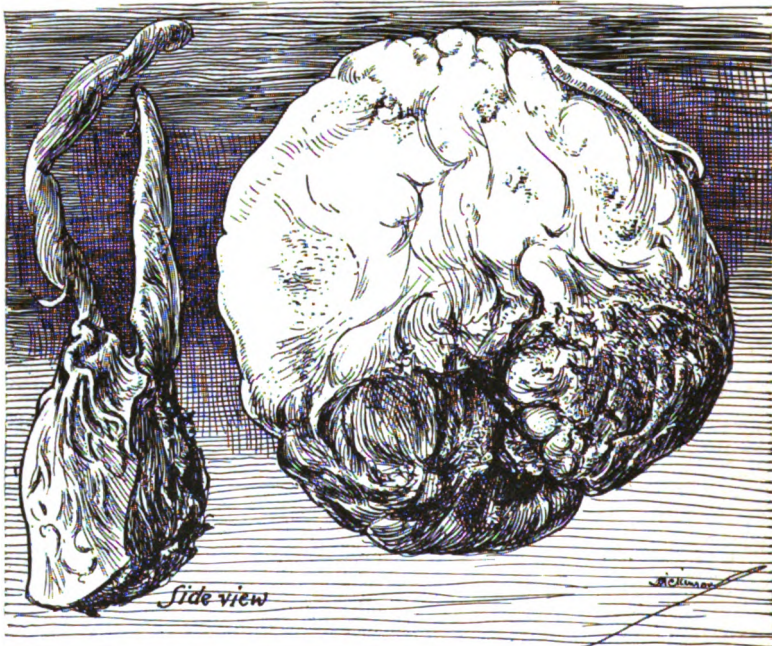
**The** patient is forty-five years old, of apparently very good **constitution**, looks well, has a negative family history, and has borne **four** children. About a month or six weeks ago she first noticed a very irritable sore in the fourchette, but she said nothing to any **one** about it. She consulted me later and I think if I had seen the **case** under almost any other circumstances I should have said that it **was** a chancre because of the indurated base. When she called **again** in a couple of weeks, I snipped off a piece of the **growth** and sent it to the pathologist for microscopic examination. **At** that time I had great fear that it was a malignant **growth**, and the pathologist confirmed my diagnosis, and reported it a **true** epithelioma. I operated in about four days after that, **removing** the mass, giving a wide margin of healthy tissue in the **dissection**, and dissecting away at least half of the posterior vaginal **wall** with it. It was very closely adherent to the rectum, but it **did** not seem to involve the sphincter, although I cut just as **close** as possible to that. After the mass was removed and the **wound** thoroughly cleared of the least remnants of diseased tissue (of which I think there could hardly be any left), I then **performed** the Emmet operation for repair of injuries to the posterior vaginal wall. This operation occurred about four or five days ago **and** since then there has been no rise of temperature at all in the **case** and no discharge. I saw the case to-day and there is apparently primary union throughout, and no untoward conditions **whatever** existing.

## EXTENSIVE DEGENERATION OF THE PLACENTA.

Dr. R. L. Dickinson presented the specimen.

Dr. Frank L. Tucker brought me in this fresh specimen for opinion. Patient forty-two years old, has never had syphilis, but has heart murmurs and chronic nephritis. Her first six children are living. There have been no miscarriages. The seventh

FIG. 1.



Extensive degeneration of the placenta (about one-half life size).

pregnancy ended at the seventh month, the fetus dead, and the placenta retained, requiring manual stripping. This eighth delivery, also with a recently dead child, was easy; the membranes tore off completely, and were delivered hanging to the child's shoulder. There was a large clot on the lower edge of the placenta, where the dark shading is seen in the accompanying diagram. This is the only part of the organ that has an appearance even remotely normal. The weight is about three-quarters of a pound, the dimensions  $5\frac{3}{4} \times 5$  inches; the thickness at the pallid edge  $\frac{1}{4}$  inch, at the thickest part  $1\frac{1}{2}$  inches. As the sketch shows, the upper two-thirds is thin, yellowish white, hard to the touch, translucent on the edges.

The specimen is slightly hardened by the formalin solution, but not greatly so, and is presented as an extreme variety of a common condition. The ordinary white infarction accompanied by calcareous patches is a very common condition. In the presence of a pathologist I am not going to venture to speak about the pathology of these conditions, particularly as the text-books do not, to one who is not very familiar with pathology, make exceedingly clear the sequence of the changes. Practically, the interest to the obstetrician is that with so extreme a diseased condition there should be delivered at the seventh month a child fully developed for that period, and that with half a placenta there should come full development. Of course, the extent of the disease eventually killed the child, but we have here only another instance of the fact that we have a wide margin to do our work with, and that one kidney, one eye, one ear, half a liver can do the ordinary work of a man without any difficulty. I presume the pathology is thrombosis, obstruction of vessels, the ordinary history of white infarction, placentitis, edema, exudate, induration, amyloid degeneration, fatty degeneration; the upper half being in the indurated condition before a great deal of fatty degeneration has taken place. A placentitis with extensive and slow fibrous changes would explain so rigid a condition as that, and the curious thing about it is that all the upper half of that placenta was as hard before it went into the formalin as it is now; therefore, it could have had very little adhesion to the uterine wall.

White infarction from the size of a bean to that of an English walnut, and usually on the maternal surface, is due to a hyaline or amyloid degeneration (Jacobson). The decidual vessels are affected, the blood coagulates in the intravillous spaces, the villi are obliterated.

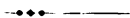
When few in number and of small size the white infarcts are innocuous. Fehling says that they are the most frequent cause or fetal death—in this case having nephritis as the probable origin. Other degenerative changes are: (1) fatty, which may result from retrograde changes in extravasations; (2) amorphous, calcareous spots; (3) pigment deposits; (4) cysts.

Syphilis, as a rule, gives a large, heavy, pale placenta—not the edematous placenta. Of course the largest placenta we see is the edematous placenta where one can bring out masses of sodden, pallid, friable material at times as great in bulk as the child itself. I have seen three cases of that kind. One, Dr.



Jacobson showed me, a case which was published in detail in the **BROOKLYN MEDICAL JOURNAL**, and for which I made some illustrations; and two others in my own practice. Minor calcareous changes are so common that the little infarcts or fatty-degeneration spots in the placenta really have little importance. They are part of the ultimate change that will eventually bring about the separation of the placenta, and this is thought to be sufficient cause for that striking of the clot at the beginning of labor, a process which is by no means clearly understood—I mean, why labor should come on at the end of the ninth and not at the end of the eighth or tenth month. These changes are of no significance when confined to small areas.

Dr. Walter B. Chase read a paper on “The Treatment of Hemorrhoids.” Discussion by Dr. A. J. C. Skene, who gave a demonstration of his electric-heating forceps and broad-ligament clamps, and by Drs. Dickinson, de Forest, Hyde, Shoop, Frank Baldwin, Kortright, and Joseph Hunt.



### MISCELLANEOUS.



### GRÆCO-ROMAN FESTIVAL SOUVENIR.



A souvenir book of the Græco-Roman Festival, handsomely illustrated, containing contributions from many prominent writers, together with valuable historical points of special interest to members of the Kings County Medical Society, will be issued by the Press Committee for the approaching festival. Inasmuch as the edition will be limited, those who wish to secure a copy should at once send in their names and subscriptions to Mrs. Homer L. Bartlett, Literary Editor, 635 Flatbush avenue, Flatbush, Brooklyn. Price, \$1.00.

# THE BROOKLYN MEDICAL JOURNAL

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## ORIGINAL ARTICLES.

No paper published or to be published elsewhere as original will be accepted in this department.

## INCUBATOR FOR THE MAINTENANCE OF CONSTANT LOW TEMPERATURES.

BY E. H. WILSON, M.D., AND R. B. F. RANDOLPH, A.C.,

Director and First Assistant in Bacteriology, Hoagland Laboratory.

In bacterial work involving the question of temperature of growth or of optimum growth, such as the bacterial examination of water, and as a matter of fact, in any bacterial work requiring accuracy in description and uniformity in results, it is fully as necessary to secure the constant factor of uniformity in experiments at the so-called "room temperatures." as it is in experiments at so-called "incubating temperatures." Variations in temperature at or near the melting point of gelatin, cause marked variations in the rapidity of growth and the morphology of colonies. The use of the term "room temperature" in interpreting results has given rise to wide discrepancies. Many laboratories have endeavored to obviate the difficulty by installing low-temperature incubators, and in some laboratories, notably those on the filter-beds at Kaltehofe near Hamburg, the work, in the

summer, is done in cellars with a fairly uniform temperature. In the neighborhood of New York, both in winter and summer, especially in steam-heated buildings, it is very desirable to have a chamber maintained at a constant low temperature ( $20^{\circ}\text{C}.$ ), for all work involving the use of gelatin and for storing stock cultures, and media.

It is necessary to supply or abstract heat from an apparatus of this sort when the temperature of the room becomes cooler or warmer than that desired in the incubator. Several methods of doing this are available, and it may be well to discuss them briefly at this point.

*Methods of Abstracting Heat.*—Here we are confined to two alternatives. I. Forcing cooled air into the inner chamber of the incubator. This method has been tried, and no accurate regulation of temperature has yet been obtained in this way. The apparatus must necessarily be bulky and expensive, and difficult to keep in adjustment. Then, too, there is danger of contaminating cultures by forcing moisture-laden air into contact with cotton plugs which are often dampened sufficiently to allow moulds to grow through them.

II. Admission of cold water into the outer jacket of the incubator. This is a simple, easily controlled, and accurate method, and is the one generally used. Very accurate control of the temperature can be obtained in this way, provided the supply of water is markedly cooler than the temperature desired. When a supply of cool water is available it can be taken directly from the laboratory supply. Where this is not the case, as is true of most buildings provided with tanks, where the water often heats up in the summer to a point above the desired temperature, it must be artificially cooled before being admitted to the water-jacket of the incubator.

*Methods of Supplying Heat.*—Heat can be supplied in several ways:

I. By forcing warm air into the incubator chamber. This method can be dismissed at once as impracticable.

II. Heating in the usual way by means of gas. The difficulty here lies in the fact that the necessity for the application of heat is only occasional in an apparatus of this sort, and as gas must be kept burning all the time, the temperature of the water in the jacket is continually being raised no matter how small a reserve flame is used, thus causing an unnecessarily great supply

of cooling water, which, when ice is used as a cooling agent, unduly increases the consumption of ice.

Devices for shutting off the gas and relighting it by a spark have proved very unsatisfactory and unreliable.

III. Heating by hot water. Very accurate regulation of temperature can be obtained in this way, but the same objection applies to this method as to the former, the supply of heat is only occasionally required, and it is necessary to keep a constant supply of hot water on hand. This is not economical.

IV. Heating by electricity. This may be done in two ways: (a) by applying the heat directly in the inner chamber or (b) by applying the heat directly to water in the jacket. Both these methods are practicable, but the second one gives more accurate results, as fluctuations in temperature in the water-jacket cause fluctuations in a much less degree in the inner chamber. Heat can be furnished or not as required and, if necessary in large quantities by a very small apparatus. The heat can be applied at its most effective point, in the water-jacket, and the apparatus can be quickly and easily controlled.

A consideration of the facts outlined above and a careful study of other attempts in the same direction led to the construction of the apparatus to be described.

#### DETAILED DESCRIPTION OF THE INCUBATOR.

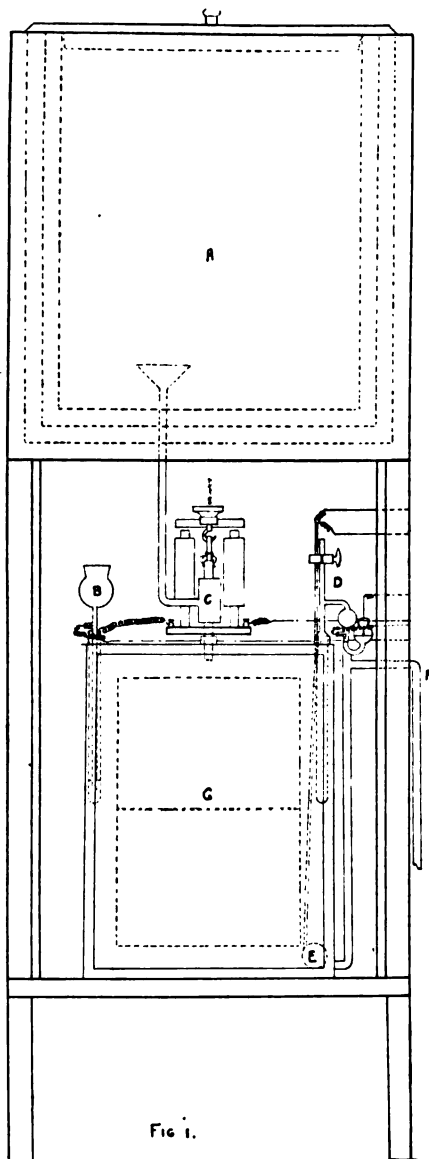
The incubator proper is a square one of ordinary construction.

It is entirely encased in a square box of wood made of two layers with heavy paper between them. An air space of three inches is left between the incubator and the surrounding box on the sides, and twelve inches on the top. On top of the box and continuous with it is an ice tank A, made of two layers of wood, papered, and an intermediate layer of saw-dust, and lined with zinc. This is covered with a closely fitting lid.

This tank has a tube running through the bottom, terminating above in a funnel covered with fine copper gauze, which being some distance from the bottom of the tank, keeps out dirt introduced with the ice. The lower end of the tube connects with the water-valve, C. Under the incubator is also a closed space ten inches high. The box is closed in front by a door extending its whole width and height which gives access to the incubator within.

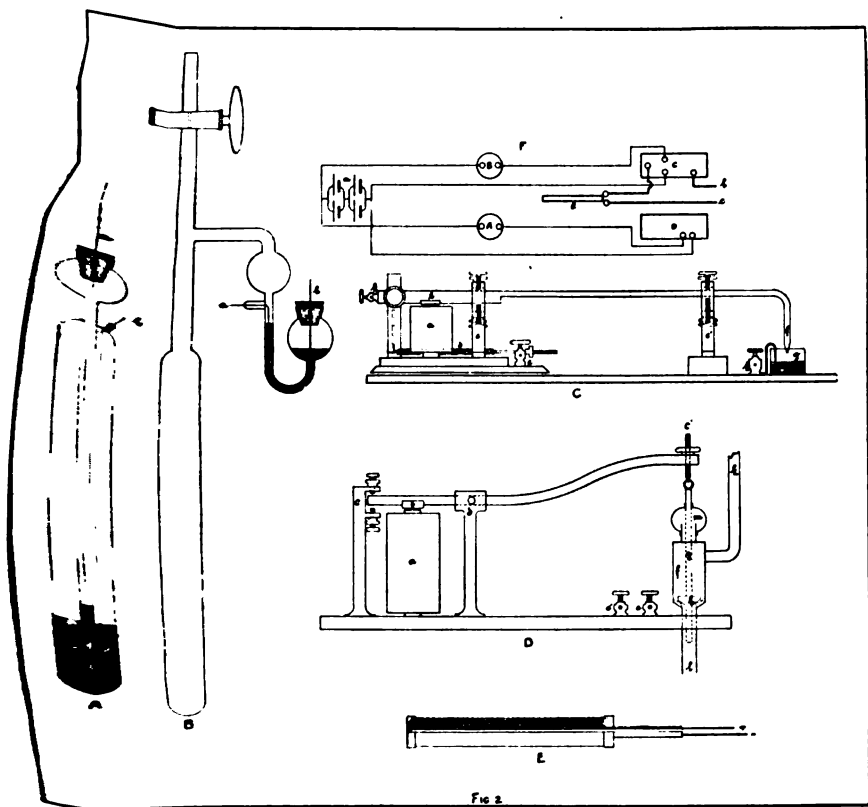
The controlling apparatus is placed, partly on top of the incubator itself and partly on a shelf outside the box. The cool-

ing device operates in the following way: A mercurial contact thermometer, Fig. 1, B, completes a battery circuit of four



Leclanche cells arranged in parallel pairs and the pairs connected in series. The completion of the circuit causes the electrically

operated valve, C, to open, allowing ice-water to flow into the water-jacket of the incubator until the temperature is so reduced that the contact in the thermometer is broken, when the valve shuts. The ice-water impinges on the roof of the inner chamber and distributes itself in all directions, so that the cooling is uniform. The warm water replaced by the ice-water is forced out through the open siphon, F, into a suitable receptacle. When the temperature in the jacket gets too low, contact is made in another



circuit (current being taken from the same battery) which operates the contact-maker (not shown in Fig. 1) and allows the Edison lighting current to heat up the electric stove at E. This stove was purposely placed under the regulator controlling it because it heats and cools quite slowly and in its present position the warm water caused by it rises and causes the regulator to shut off the current before the temperature of the water as a whole has reached that required. This tends to compensate for

the slow cooling of the stove. The construction of the contact thermometer A, in Fig. 2, which controls the flow of ice-water can be readily understood from the figure. The lower part of the bulb contains mercury, the upper, air with a little ether vapor (petroleum ether would be better, as its boiling point is lower) contact is made between the terminal b, sealed into the bulb and reaching down into the mercury, and a, passing through a cork in the upper part of the central tube. By pushing this wire up or down the thermometer can be adjusted to cut off at any desired temperature.

The valve D, in Fig. 2, which the regulator controls, is extremely simple in construction as will be seen from the figure. The electro-magnet A, acting upon the armature b, which is fastened to the arm hinged at d, raises the plunger g, of the valve f, lifting the conical valve plug h, from its seat, and allowing water which enters at k, to escape at l. The amount of motion allowed the arm is regulated by the adjusting screws at c, and the screw e, which slips freely through a hole in the arm and connects with the plunger of the valve b, slight play being allowed to admit of the valve seating itself properly. A piece of dental rubber m, tied around the top of the valve-box and the plunger allows sufficient motion with very little resistance to the pull of the magnet.

The regulator operating the heater which must make contact on a falling temperature is shown at B, Fig. 2. The bulb contains air only, the pressure of which is regulated by the stop-cock at the top. The bulbed U tube contains mercury. One terminal is sealed into the tube at a, the other passes through a cork in the open arm at b. When the water in contact with the bulb cools, the air within it contracts and raises the mercury in the closed arm of the U tube until contact is made. When the water becomes warm again, the reverse happens. The contact completes a battery circuit which operates a circuit closer C, Fig. 2, which consists of an electro-magnet a, acting on an armature b, attached to a long arm hinged at one end and terminating at the other in a pointed piece of iron f, which dips into a glass cup g, containing mercury. From this mercury a No. 10 wire runs to the binding-post h. The other binding-post k is at the other end of the arm, and the wire connected therewith is twisted in a long spiral in order not to offer any resistance to the motion of the arm. The extent of motion is controlled by the adjusting screws c and c', and the weight of the arm balanced by the spring d. When this arm is down and the point f, dips into the mercury, current from the

*Edison* 110-volt lighting current passes through the heater E. This consists of a brass tube capped at both ends and having a much smaller tube running through one cap and extending to the other end of the large tube. On this inner tube is a thin layer of asbestos as an insulating material and a layer of loosely wound bare No. 30 iron wire; on this is wrapped another layer of asbestos and another layer of wire, and so on, making three layers of wire in all. The two ends of the wire connect with insulated copper wires which pass through the central tube. The whole is filled with paraffin, and the cap screwed on water-tight. A rubber tube is slipped over the conducting wires and the outside end of the smaller tube, and, extending to the top of the incubator, prevents the entrance of water into the heater.

A diagram of the electric connections is given at F, Fig. 2, where a is the battery, A the cold water regulator, D the water valve, B the hot regulator, C the circuit closer, F the heater, b and c the 110-volt wires.

It is necessary to have the contact thermometer for the electric heater run on a small battery current. The arc formed by the 110-volt current, when four or five amperes are passing, would quickly destroy the thermometer, and even if the current is cut down by shunts the arc is so long that no accuracy in regulation can be attained.

The regulators are so adjusted that the interval at the critical point where one would heat and the other cool, is quite short and allows of a maximum variation of  $\frac{1}{2}^{\circ}$  C. By increasing the sensitiveness of the regulators and more accurately regulating the currents in the water in the jacket, this error can be still further reduced.

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## DIAGNOSTIC METHODS IN DISEASES OF THE STOMACH.

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BY LEWIS N. FOOTE, A.M., M.D.

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It is within the province of this paper to deal simply with the procedures which are the most useful as well as practical in arriving at a diagnosis in diseases of the stomach. These methods have been tried and found most serviceable in this work conducted



under the supervision of Dr. Chas. S. Fischer at the Vanderbilt Clinic in New York.

Diagnosis is the art or act of recognizing the presence of disease from its signs or symptoms and deciding as to its exact character—it is a scientific discrimination requiring critical scrutiny and perception. The term scientific has been used in recognition of the constant and increasing tendency towards the determination of the exact, so far as possible—rather than resting content with problematic conditions. And in the general subject which we now have before us for our consideration, there has always been exhibited this same spirit of scientific investigation upon lines involving analytical procedures.

The work of the pioneer, Dr. Beaumont, was the observation of existing conditions and the so-called inferences he deduced, were in reality the logical conclusions from the experiments he was privileged to conduct. And when Kussmaul brought into play the stomach-tube for diseased conditions it was but remaining for Leube to make use of it for diagnostic purposes. Thus was formed the basis for scientific research into the functions and pathological conditions of the stomach.

This method was pursued till the extreme position was reached and the tube received its halo of glory as a universal panacea. Lavage was the cure-all for the ills of the stomach. Happily this position has been receded from, and the tube has been consigned to its proper place both as a diagnostic and remedial agent.

True it is, in this class of diseases, as in others, that the correct diagnosis of any gastric derangement depends upon the use of all the possible diagnostic procedures and the careful consideration of all the symptoms. So for purposes of convenience and clearness, we may divide our methods into three classes—equally important—1st. The History of the Case. 2d. The Physical Examination. 3d. The Analysis of the Functions of the Stomach.

1st. The History.

The interrogation of the patient should yield a full and complete description of the ailment, beginning with its inception and including the present existing condition. If, as is so often the case, the patient be subject to so-called attacks, a complete picture of one of these should be secured. Any intercurrent disease should be detected and its relation determined if possible. Too much cannot be said of the great importance which lies in the full clinical history of the case, for notwithstanding the wonderful in-

crease in the practical methods, it still retains its place of marked value in arriving at a definite diagnosis.

**SCHEME FOR RECORD OF HISTORY, ARRANGED BY DR. FISCHER.**

**Name**..... **Age**.....  
**Civil Condition**..... **Date**.....  
**Occupation**..... **Residence**.....  
**Duration of Illness**..... **Previous Condition**.....  
**Began** Suddenly, Gradually, Caused by.....  
**Continuous**, Remittent, Occasional, Health between Attacks.....  
**Number of Attacks**..... **Duration of Attacks**.....  
**Symptoms** Present on Empty, Full Stomach, Constantly, Irregularly. First Noticed..... **Appear**.....  
**Hours**..... **Meals** **Duration**.....  
**Relieved**, Aggravated by Liquids, Solids, Erect, Recumbent Position, Changes in Symptoms....., **Loss of**  
**Flesh**, **Strength**..... **In**.....  
**Family History**.....

**PRESENT SYMPTOMS.**

**PAIN** ..... **Character**....., **Localized**,  
**Diffuse**, **Changeable**.....  
 Before, After Meals, Occasional, Constant, Irregular, Time..... **Duration**  
 ..... , **Relieved**, **Aggravated** by  
 Liquids; Solids, Condiments, Acids, Pressure  
 .....  
**PRESSURE** ..... **Location**..... **Time**.....  
**Duration**.....  
**BLOATING** ..... **Location**..... **Slight**, **Excessive**,  
**Time**..... **Duration**.....  
**GAS** ..... **Quantity**..... **Time**.....  
**Eructions** **Slight**, **Excessive**, **Difficult**.....  
**NAUSEA** ..... , **Morning**, **Before**, **After** Meals, **Occasional**, **Constant**, **Cause**.....  
**EMESIS** ..... , **Morning**, **Before**, **After** Meals,  
**Occasional**, **Constant**, with Nausea, Relief after  
 ..... , **Periodical**.....  
**VOMIT** ..... **Quantity**....., **Character**  
 ..... , **Odor**.....,  
**Color**....., **Taste**.....,  
**Blood**, **Bile**, **Mucus**.....

<i>REGURGIT.</i>	....., Taste..... Character.....
<i>APPETITE</i>	Normal, Excessive, Diminished, Complete Anorexia, Capricious, Changeable, Easily Ap- peased, Craving for.....
<i>TASTE</i>	.....
<i>FOOD</i>	Meals..... Regular, Irregular, Animal, Vegetable, Starchy, Sugar, Fats, Acids, Solids, Liquids, Cannot take.....
<i>BOWELS</i>	Constipation, Diarrhoea, Alternating, Dura- tion....., Stools: No ....., Character....., Pain ....., Tenesmus..... Flatulence..... Borborygmus.....
<i>HABITS</i>	Active, Sedentary, Alcohol....., Tobacco ....., Medicines..... Tea....., Coffee..... Haste in Eating.....
<i>EXTRAN.</i>	Nervous irritability, Insomnia, Headaches,
<i>SYMPTOMS</i>	Lassitude, Palpitation, Dyspnea, Vertigo, Nocturnal Restlessness and Disturbing Dreams.
<i>GENERAL</i>	
<i>CONDITION</i>	.....
<i>PHYSICAL EXAMINATION</i>	..... ..... ..... .....
<i>DIAGNOSIS</i>	.....

This is bound in book form and serves as a record of cases treated at the Clinic.

The subjective symptoms lead up to the physical signs or objective symptoms.

#### 2d. The Physical Examination.

I. Inspection. The eye must be quick to detect any deviation from the normal physical condition. Certain fixed points should be chosen as land-marks and these, with the clear picture of the normal in mind, will render any slight change quickly noticeable. The umbilicus is the focus point of our observations. A perpendicular erected at this point, passing through the ensiform

cartilage and also a horizontal line to the crest of the left ilium, **this** line bisected by a perpendicular passing through the nipple—**these** will divide the abdominal surface into more convenient areas for study.

**This** chart is attached to each history and serves as a record of **the** condition at the time of the examination, and for reference at **subsequent** examinations for the determination of any changes in **the** size and location of the organ.

**The** abdomen should be examined with the patient both in the prone and erect positions. In many instances, a diagnosis of gastropstosis or dilatation can be made through mere inspection.

**At** this time we must observe the mouth and throat for catarrhal processes, the teeth as a possible source of improper mastication or of bacterial infection. The pallor of the skin, emaciation and flabbiness may act as a cue to the detection of malignant disease.

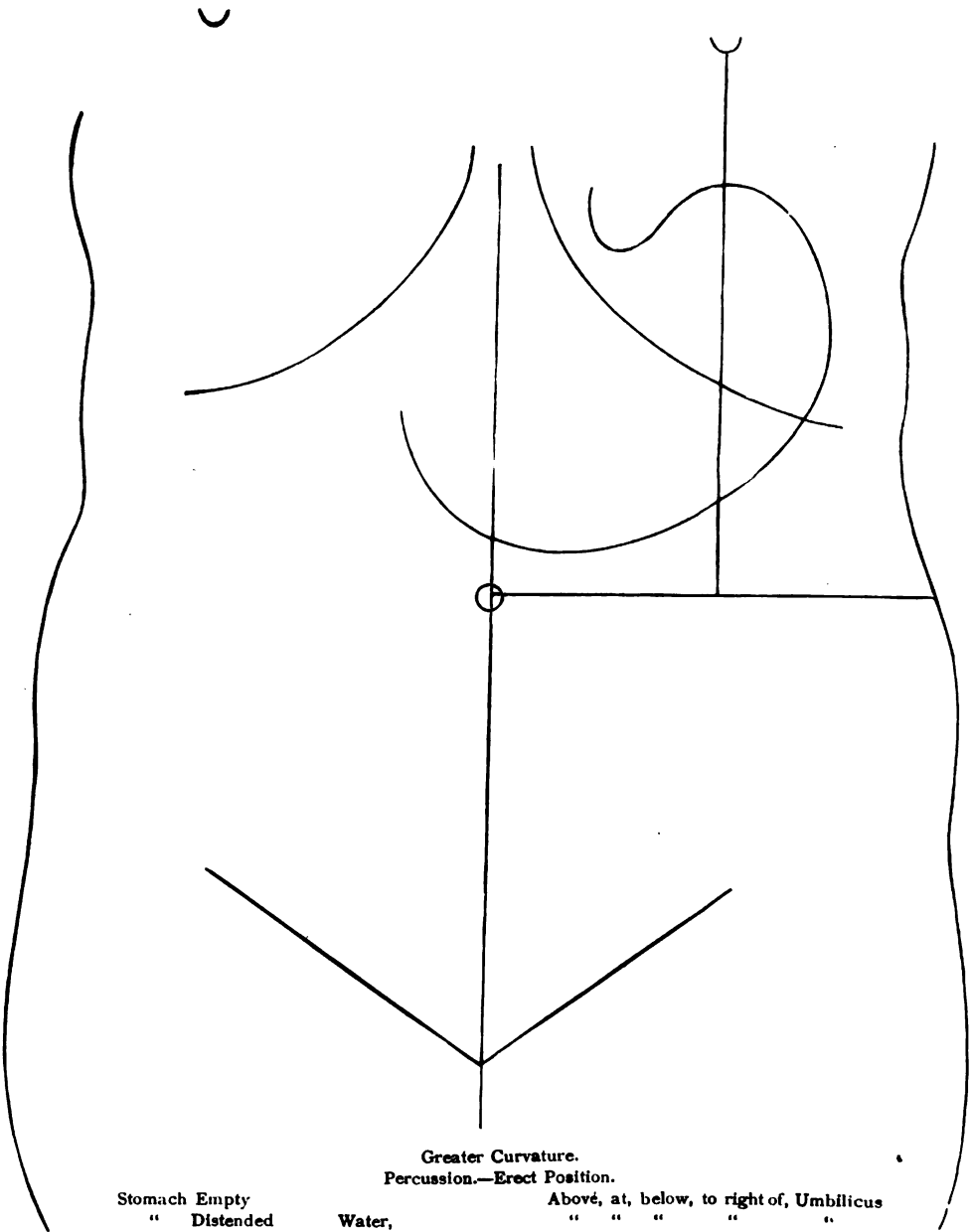
**II. Palpation.** Delicacy of touch and the ability to recognize the **significance** of the sensations imparted to the hand, enable the examiner to locate the limits of the principal organs, detect spots of **sensitiveness**, local or diffuse pain, and the size and situation of **foreign** bodies or growths. There should be some system in **covering** the ground. To obtain the greatest information the **bowels** should be empty and the abdominal muscles must be relaxed.

**Forcible** palpation may reveal splashing sounds. The **significance** of these splashings depends solely upon the fact that when **they** are heard below the umbilicus, they aid in the diagnosis of dilatation or gastropstosis with atony.

**III. Percussion.** This means will yield the most definite knowledge of the actual size and location of the stomach. A **universal** rule to be observed is to make use of a very light and even **manner** of finger percussion. Between the light percussion of **one** region and the heavy of another, there can be no possible **means** of comparison. There is obtained over the stomach area a **tympanitic** note varying in its limits with the amount of air and **solids** contained therein.

**The** effort should first be made to map out the stomach while the **patient** is in the prone position and the organ empty. This is **difficult** at times and can only be accomplished by a keen perception of the difference between the tympanitic sounds of the **intestines** and the stomach. The greater curvature generally, may be easily located, normally a few centimeters above the umbilicus.

CHART FOR RECORDING PHYSICAL EXAMINATION DEvised BY DR. CHAS. S. FISCHER.



Percussion.—Recumbent Position.  
Above, at, below, to right of, Umbilicus.

Greater Curvature.  
Lesser Curvature.  
Sensibility.  
Motivity.  
Abdominal Walls, Organs.

But the lesser curvature will seldom be definitely recognized save in cases of gastropotosis when it may appear below the free margins of the ribs.

The points of interest to be determined are in what relation to the umbilicus is the greater curvature—at, above, below, or to the right of—and how much?

It is a still much mooted question how far, if at all, the normal stomach extends to the right of the median line.

Following the percussion in the recumbent position, comes that in the erect, each time marking the results upon the abdominal walls. At times, a definite knowledge is now obtained. At others, new means must be brought into play. The most definite and satisfactory is that of Penzoldt—filling the stomach with water. Percussion will yield an absolutely flat note, contrasting more clearly with the surrounding parts. The water should be introduced through the tube in small amounts, noting the effect, if any, upon the position of the greater curvature. Thus in this way we may be able to locate definitely the lower border and also note any atony made evident by the lowering of the greater curvature through the weight of the water.

Another device consists in the introduction of gas or air. By attaching a double bulb arrangement to the tube, the air may easily be pumped in and the amount of air introduced may be controlled more perfectly than when the stomach is distended by CO<sub>2</sub> gas generated inside the organ. Palpation of the walls is rendered much more satisfactory, the determination of the site of tumors is more perfect, and the percussion area is enlarged. The inflation should be conducted with the patient lying upon his back—slowly, and stopped at the first signs of distress.

IV. Gastroscopy. Little can be said in favor of the gastro-scope. It has not yet fully demonstrated its value as a diagnostic help, and its use has been limited by its expense and the marked difficulty in its manipulation.

V. Gastrodiaphany. The attempt to transilluminate the stomach walls was successfully accomplished by Einhorn. This instrument consists of an ordinary stomach tube with a small Edison incandescent lamp inserted in its end, and the conducting wires passing through the lumen of the tube. The value of this method is not absolute. It depends for success upon the translucency of the abdominal walls, the absolute absence of food in the stomach, and the emptiness of the bowels. The stomach must be thoroughly washed out and half a liter of water left remaining

in the organ. The light is introduced, the patient being in the erect position. The operation must be conducted in a dark room.

The results can be obtained more accurately by other methods as an absolute diagnosis cannot be made solely upon the use of the light, for often the colon and the small gut will transmit the illumination and the result is misleading. The so-called red zone is very apt to be an indefinite luminous abdominal area.

3d. The Analysis of the Functions.

This brings us to the consideration of the stomach tube and its use. The employment of the tube has opened up the subject of gastric pathology and rendered inestimable its value in the exploration of the functions of the stomach. There are several varieties of tubes in use. The requisite qualities for a serviceable tube consist in its being moderately soft, perfectly smooth, with a rounded closed end, at least two openings near that end and with as large a caliber as consistent with its easy passage. The tube of Riegel best meets these requirements. The recurrent stomach tube of Hemmeter has no special merits save as a time-saver. It is wise to have an assortment of both hard and soft tubes. In tolerant cases, the stiffer tube is more easily and quickly passed while in sensitive persons it may be necessary to use a very small and soft tube. All tubes should be perfectly flexible.

In passing the tube, the patient is seated in a chair, with the head inclined slightly backward, and the clothing about the neck and waist loosened. Artificial teeth, if present, should be removed. No lubricant is needed save wetting it in warm water. The tube is introduced into the mouth until the posterior wall of the pharynx is touched. Then the patient is told to swallow. At the instant the attempt is made to do this, pressure should be made on the tube forcing it down the esophagus. Then by pushing gently, it soon enters the stomach. There is absolutely no need of inserting the fingers in the patient's mouth and the cocaine spray may well be dispensed with as unnecessary. For with patience and persistence there are few cases where much difficulty will be encountered. The tube should be long enough to project several inches from the mouth and should always be held by the operator to prevent its being drawn suddenly into the stomach.

The two methods of withdrawal of the gastric contents are by aspiration and expression. To accomplish the latter, the patient fills his lungs and compresses his abdominal muscles as during the process of defecation. This pressure upon the stomach will generally force its contents through the tube. If this method does

not avail we may have recourse to aspiration. A rubber bulb is attached to the end of the tube by means of a piece of glass-tubing. The contents may thus be drawn into the bulb by a suction process. When the tube is removed, the lumen should be closed by grasping the end between the thumb and forefinger and thus additional material contained in the tube may be obtained. Failure to secure any of the gastric contents, may result from obstruction of the tube by large particles of food, stringy mucus, introducing the tube too far or the emptiness of the stomach.

#### TEST MEALS.

The principal test meals are the Ewald-Boas breakfast consisting of a slice of stale bread or a roll without butter and half a pint of weak tea without milk or sugar. The examination should take place one hour after the ingestion of the meal. The Riegel dinner should include soup, steak, vegetables, and bread and the examination should be three hours later. There is another breakfast, the Leube meal, similar to the Riegel in material, but taken in the morning, and the stomach examined after seven hours, for residue.

The methods for the chemical examination of the gastric contents by the practitioner must be of a simple character and capable of being quickly and easily done.

After we have secured the specimen it is wise to note the amount of the material, normally 100-125 c.c. in a test breakfast, and the gross characteristics as odor, color, presence of mucus, degree of digestion, and the visible presence of fermentation by the separation into the three characteristic layers—froth, liquid, and undigested food particles. Care should be exercised to distinguish between gastric mucus which forms a homogeneous medium and the lumpy masses of swallowed mucus which usually float upon the surface of the liquid. The specimen may now be set aside to filter, which process will be retarded more or less by the amount of mucus present. After filtering, the residue may be left upon the paper for microscopical examination and the filtrate is now ready for the chemical tests.

#### THE CHEMICAL EXAMINATION.

First the reaction should be taken with the blue litmus to determine whether it be acid or neutral. An alkaline reaction is



rarely found. If neutral, further tests for the presence of HCl. are unnecessary. If acid, the test is made for free acids with the Congo red paper. For practical purposes the presence of free HCl. will turn the Congo paper a clear blue.

Töpfer's test for free HCl. has the great advantage of its being an exceedingly delicate as well as a simple one for the quantitative analysis. A 0.25 per cent. alcoholic solution of dimethyl-amidoazobenzol is used. To a test-tube containing 5 c. c. of the filtrate add two drops of this solution. If free HCl. be present the solution will turn a bright cherry red. The titration is made from a burette filled with a deci-normal solution of caustic soda until the color changes to an orange. Then read off the number of cubic centimeters of the deci-normal soda solution used. This will give the acidity in terms of the soda solution. This figure of acidity computed for 100 c. c. and multiplied by 0.00365 will give the percentage of free HCl. present in our specimen. To this same test-tube and its contents we may apply the test for the total acidity. Our reagent is a 1 per cent. solution of phenolphthalein; a couple of drops are added to our solution. Again we add slowly from the burette containing the soda solution till the deep red color appears and remains permanent upon shaking. The number of cubic centimeters are read from the burette and this will represent the total acidity minus that of the free HCl. Addition of these two will give the absolute total acidity.

Most of the organic acids are produced by fermentation; for lactic acid the Uffelmann test is the most simple and sufficiently reliable for practical purposes, since this acid must be present in large quantities to be of pathological importance. To 5 c. c. of distilled water add a drop or two of ferric chlorid so that there is but the faintest tinge of yellow to the solution. Now add 1-1½ c. c. of the filtrate. If lactic acid be present the solution will turn a heavy greenish-yellow. Butyric acid may be recognized by the rancid odor of the chyme. If acetic acid be present it may easily be detected by its characteristic smell. The presence of pepsin and its relative amount is determined by the effect of digestion upon a disc of the coagulated white of an egg. It is rarely necessary to test for the peptic ferments, provided free HCl. is present. Should HCl. combined and free be absent it will then be necessary to test for the ferments. These cases are rare. The Rennet ferment is best determined by Leo's method. To 10 c. c. of plain, uncooked milk is added a couple of drops of the filtrate. In the presence of the ferment coagulation will take place in from

ten to fifteen minutes. The tube should be set in a tumbler of warm water. This coagulum is characteristic, being in the form of a solid cake of casein floating in clear serum.

In determining the degree of starch conversion, using as our reagent Lugol's solution, we should remember that amylopectrin will give a distinctly blue color; erythropectrin, a violet blue to a mahogany brown; while achropectrin decolorizes the yellowish tint of the solution. Maltose reduces Fehling's solution and dextrose ferments readily with yeast.

Bile usually may be detected by the greenish-yellow tinge.

#### THE MICROSCOPICAL EXAMINATION.

A drop of the chyme left upon the filter paper is placed upon a slide, thinly spread out, and a drop of Lugol's solution added. This should now be examined carefully to determine the relative amount of starch granules colored blue, fat globules or crystals, muscle fibers, mucous shreds, fragments of tumors, the various forms of epithelial cells, leucocytes, pus-cells, blood-corpuscles, and the presence of micro-organisms as the yeast plant, the *sarcinae ventriculi*, the *Oppler-Boas bacilli*, streptococci and micrococci.

#### THE ABSORPTIVE FUNCTION.

The absorption of the stomach is best clinically determined by the method of Penzoldt and Faber. For lack of a better and more perfect—this is our best. A three-grain capsule of potassium iodide is given the patient and the saliva is tested for the presence of iodine by means of the reaction of fuming nitric acid upon strips of starch paper moistened with the saliva. Normally, the iodine should appear in from ten to fifteen minutes.

#### THE MOTOR FUNCTION.

In considering the motor-power or peristalsis of the stomach the relative degree of tonicity of the gastric muscles plays an exceedingly important part. The reaction of the stomach in expelling its contents by the irritation caused upon the introduction of the stomach tube will aid in the determination of the motor activity.

The salol test of Ewald, while it has been characterized as

somewhat crude, still is practical and imparts some knowledge to us. One gram of salol is given in capsule form during digestion, preferably at its height. As it is insoluble in the stomach it will not undergo decomposition until it reaches the intestines where it is split up into carbolic and salicylic acids, and eliminated from the system as salicyluric acid. Under normal conditions, the presence of this acid may be detected in the urine in one hour. The test is made by observing the first appearance of the violet color produced by the addition of a neutral solution of ferric chlorid to the urine.

But the best test to determine the gastric motivity is by means of the Leube meal previously referred to. The tube is passed seven hours after the ingestion of the meal. At this time the normal stomach should be empty. The degree of myasthenia may be calculated by the amount of residue found upon washing out of the stomach. The gastrograph and kymograph are instruments useful only in the laboratory.

The course of the series of examinations given in detail in this paper appears complex and impossible in a crowded dispensary. This is more apparent than real. My experience with Dr. Fischer at the Vanderbilt Clinic has taught me that the examinations, carried out with systematic regularity, can be made in a very short space of time and with very little inconvenience to the patient.

That the examinations are indispensable for diagnosis and subsequent treatment of chronic gastric affections has been proven by the excellent results obtained in very old and apparently hopeless cases.

All patients at the clinic are treated in the manner described and the large amount of work accomplished at a single sitting could only be possible with this system of charts, history blanks, and routine regularity of examination.

523 Willoughby Ave.

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#### JENNER INSTITUTE.

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Lord Iveagh (Edward Cecil Guinness) has presented \$1, 250,-000 to the Jenner Institute to be used in scientific research in bacteriology and other forms of biology. He purposes giving a similar amount to improve an unsanitary district in the heart of Dublin

## THE EARLY STAGES OF CHRONIC LEAD-POISONING AND THEIR TREATMENT.

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In choosing lead-poisoning for the subject of this paper the writer was guided by the belief that it was of general interest and that this was particularly the case with the early stages of poisoning, since they were those most likely to be observed by the general practitioner. It is intended therefore to speak chiefly of those cases which come under our care for the relief of a very prominent and very troublesome symptom, the so-called lead-colic. It will be shown in the course of this paper that this colic is indeed only a symptom of a general poisoning and can be properly treated only when the general condition receives proper attention.

Before discussing the symptomatology of lead-poisoning it may be in order to say a few words regarding its etiology. We know that lead-poisoning can be acquired in different manners, but we know also that certain occupations expose one particularly to the entrance and accumulation of the poison in the organism. I would mention especially first that of painter and second that of manufacturer of lead-colors. Both of these occupations furnish a large percentage of cases; but, as it happened, all the writer's cases except one were seen in employees of color-works in which lead-colors were manufactured. Whether the frequency of this particular etiology was only a local peculiarity, I cannot say definitely but I thought it worth while to point out the fact. It is certainly worth while to state that it is a particular branch of the work that proves especially dangerous, namely, the grinding of lead-colors. This process causes the atmosphere to be filled with fine particles of the color, which are necessarily inhaled by the workingmen. That in this manner large quantities of lead may enter the organism is evident and it is not astonishing to find

that a great many cases develop directly after this kind of work, as the writer had occasion to state.

There will be occasion to return to this point when speaking of the prophylaxis of lead-poisoning. For the present let us consider the symptomatology of this condition.

*Symptomatology.*—The symptoms of early lead-poisoning may be conveniently classed as follows:

1st. Subjective complaints and symptoms revealed by inquiry of the patient.

2d. Symptoms revealed by objective examination. We may best begin with *subjective complaints and symptoms revealed by inquiry of the patient.*

1. *The colic.*—The most prominent symptom in the early stages of lead-poisoning and the one for which the physician's aid is most frequently requested is the colic. This colic bears in the main the character of intestinal colic. In the pronounced cases it is very violent and persistent but to some extent paroxysmal, inasmuch as there are exacerbations of the pain which are followed by considerable remissions of shorter or longer duration. In the earliest stages of the poisoning the pain appears only at intervals and then is but slight. Gradually it increases in intensity and frequency and finally becomes constant.

As to localization, the pain is distributed over the whole abdomen, but usually it is especially severe in two regions which might properly be called centers of pain. One of these lies in the epigastrium, as a rule at a point 2-3 inches below the processus xiphoides. The second center of pain lies over the bladder.

2. *Constipation.*—This is one of the earliest manifestations of chronic lead-poisoning. It often precedes the colic but becomes especially marked after the colic has set in. A history of marked constipation of quite recent origin ought to arouse a suspicion of lead-poisoning even if no colic is yet complained of. The constipation may reach high degrees and be very obstinate, resisting the most energetic measures.

3. *Nausea, vomiting, and anorexia.*—Usually the attack of colic is ushered in with nausea and vomiting. These symptoms persist in more or less degree during the entire attack of colic; in other cases the vomiting is present only at the beginning of the colic, but at that stage it is seldom absent. After the colic is over the vomiting usually ceases, but often some nausea remains, and there may be *anorexia* for a period of several days or weeks.

4. *Urinary disturbances.*—What the patients further complain

of is a frequent desire to micturate and a burning sensation in the urethra. Very frequently they notice a lessening of the quantity of urine passed and sometimes there may be complete suppression of renal secretion for a period of from 10 to 24 hours. These urinary anomalies vary greatly according to the severity of the poisoning and may usually be elicited if a proper inquiry is instituted.

5. *Muscular and joint pains.*—In some cases, but by no means in all, the patients complain of pain in the muscles and joints. In these early stages of the poisoning which we are now considering, these pains, if present at all, are usually vague and not severe. In those usually more advanced cases, however, which develop the so-called lead-palsy, muscular pains preceding the palsy and subsiding commonly soon after the palsy has set in are of almost typical occurrence.

#### SYMPTOMS REVEALED BY OBJECTIVE EXAMINATION.

1. *General aspect.*—Most of the patients suffering from lead-poisoning show a marked pallor of the face which has at the same time a yellowish, or oftener a grayish-yellow hue. The dependence of this condition upon the lead-poisoning is shown by the return of the normal color as soon as the symptoms of the poisoning subside. Anemic changes of the blood are evidently responsible in part for the pallor and the grayish-yellow hue, but changes of the cutaneous tissues may contribute in producing this aspect. At any rate it is claimed by some that the skin of individuals suffering from chronic lead-poisoning contains lead in large quantities and that its presence there may be proven by application of a solution of sodium sulphid or of ammonium sulphid which, it is said, immediately causes the skin to turn black by the formation of lead sulphid. This test I have tried in undoubted cases of lead-poisoning with negative result. What caused the failure I cannot tell; possibly the solution employed was not strong enough.

Let us close this paragraph with the statement that occasionally true icterus, showing distinctly on the conjunctivæ of the eyeballs, is the cause of the yellow hue.

2. *Lead-line.*—Another symptom revealed to the eye is the lead-line appearing at the borders of the gums. The characteristic feature of this line is a gray discoloration. Very often a bluish zone borders the gray line; but this bluish discoloration is by no means typical, as it is frequently found in other conditions,

when there is an irritability of the gums, whether from defective teeth or tartar on the teeth or some other cause. It is therefore the gray color alone that indicates the presence of lead. In case of doubt the hydrogen-peroxid test may be applied. A piece of cotton drenched with a strong solution of hydrogen peroxid is pressed against the gum and left in this position for a minute or two. If due to the presence of lead, the gray line under this test turns white.

The lead-line is found in an overwhelming majority of the cases of lead-colic. Indeed one ought to be on the lookout for it whenever there is a history of intestinal colic and constipation. Its absence, however, does not completely exclude the possibility of lead-poisoning, as the frequency of the lead-line is apparently due very much to the fact that the lead is oftenest introduced into the system by way of the mouth and alimentary tract, whereby it is probably directly deposited while passing the gums on its route downward. On the other hand if the lead is introduced in other ways, for instance through the respiratory tract alone, the lead-salts are much less likely to be deposited in the gums and yet there may be very marked symptoms of lead-poisoning.

3. *Symptoms on the part of the abdomen.*—The abdomen of patients suffering from lead-colic is usually not bloated, but rather slightly sunken in. The tension may be increased, often it is not. There is some tenderness to pressure all over the abdomen, most marked however at two points, the same in which the patients have also subjectively the greatest pain, namely, first, at a point 2 to 3 inches below the xiphoid process, in the median line or slightly to the left of it; second, in the region corresponding to the bladder. Even over these two points however the tenderness is not very marked; and considerable pressure has to be used before pain is produced. This fact distinguishes the tenderness from that of peritonitis, while it is distinguished from that of gall-stone colic by the different localization of the tenderness, since in the case of lead-colic the region of the gall-bladder is usually not sensitive. The distinction from the colic due to renal calculi will be discussed in a later paragraph.

In speaking of the objective symptoms connected with lead-colic I ought to mention the fact that where the colic is very severe the pain produces a characteristic attitude, expression, and bearing which might properly be called "colic aspect." The patient is doubled up, the knees flexed, the thighs drawn up to the abdomen, the spine curved forward and the head inclined

toward the chest. The features show a convulsive distortion. This is accompanied by a violent jactation, a convulsive rolling about, and changing of position. These symptoms give such a typical ensemble that at the bedside I frequently have been able to make the diagnosis of lead-colic at the first glance. When in erect position, the attitude is sometimes that of lumbago.

That *constipation* is a constant feature of lead-colic and of the early stages of lead-poisoning has been pointed out already and we may repeat only that it is usually very obstinate. I remember one patient who stated that his bowels had not moved for a period of 13 days.

4. *Symptoms on the part of the circulatory system.*—As a rule the first symptom noticed on the part of the circulatory system in chronic lead-poisoning is the increased tension of the pulse. This increased tension I have found present in from 80 to 90 per cent. of the cases. As a rule the radial pulse is hard and full. Occasionally, however, exceptions to this rule occur. In a few cases for instance I have found the radial pulse rather small, owing to the fact that the artery, although hard and tense, was much contracted and probably was so in its entire course. Again one meets now and then with a case in which the pulse is small in one radial artery, while in that of the other side it is full; and finally one may occasionally find the tension of the pulse varying in the same radial artery in the course of a few beats. In the remaining 10 to 20 per cent. of my cases the tension of the pulse showed no deviation from the normal.

Regarding the pulse rate I have to say that I have found it more frequently increased than diminished. It has usually varied between 78 and 84 beats and never surpassed 90 in the cases which have come under my observation. In but a small percentage a retardation of the pulse rate, in one case even down to 55 beats a second, was noticed. I emphasize this relatively rare occurrence of a slow pulse rate, as in some text-books retardation of the pulse rate is enumerated as one of the characteristic signs of chronic lead-poisoning.

Arrhythmia of the pulse is apparently not of frequent occurrence, at least the writer has not met with one case in which the rhythm of the pulse was distinctly altered.

On the part of the heart we may have distinct disturbances in the early stages of lead-poisoning, although not in all cases. Sometimes the heart action is over-strong, the sounds being over-loud. Usually the sounds are pure, but occasionally the first



sound may be muffled over the left ventricle. The changes in the number of the heart-beats we need not dwell upon since they coincide very nearly with those of the pulse rate; but the writer wishes to call attention to a change in rhythm observed in quite a number of cases and characterized as follows: On auscultation over the base of the heart one hears, about every 10 beats, or more or less frequently, how the regular rhythm is suddenly broken up by what appears to be a reduplication of the second sound. This reduplication occurs usually only once at a time, the former regular rhythm is then resumed, until after 10 beats or so the same phenomenon is repeated.

I am very much inclined to explain this phenomenon either by an asynchrony of action or more probably by different force of action of the two halves of the heart. The fact that the said phenomenon is usually better heard over the base than over the ventricles favors such a view, moreover the said changes of the heart rhythm are usually not noted in the pulse, the latter maintaining its regular rate. This also tends to show that the heart in toto retains the same rhythm and that only sudden inequality of action of the two halves of the heart causes those sudden changes of rhythm which are revealed to auscultation.

It is not meant, however, to convey the impression that these changes of rhythm are characteristic of lead-poisoning. They are noticed also in other conditions, such as alcoholism, labor hypertrophy of the ventricles, etc., and last, but not least, in normal hearts, as has recently been pointed out by Sewall\* in a very interesting article. When I first observed the phenomenon I was inclined to consider it as a fine reaction of disturbed nerve action, indicating the very first stage of disturbance in the function of the ganglionic nerve-apparatus of the heart. The fact, however, that this change is found also in the normal heart under apparently normal conditions militates against this view

5. *Disturbances on the part of the genito-urinary system.*—Lead-colic is accompanied in almost every case by disorders of renal secretion. Usually the quantity of urine is diminished, occasionally here may be anuria of longer or shorter duration, this anuria being due not to a retention but to arrested secretion of urine. A very constant feature is the increased specific gravity of the urine which I have found varying from 1024 to 1035, the average being 1028. If we compare this with the normal specific

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\* *Journal of the Medical Sciences*, vol. 115, p. 649, 1898.

gravity which is said to vary from 1024 to 1035 we see that the increase is quite remarkable. In harmony with the high specific gravity we often find the color of the urine much saturated, varying from a saturated yellow to a brown color. In one case Dr. Bookman, Associate in Physiological Chemistry at the Pathological Institute of the N. Y. State Hospitals, was kind enough to analyze the urine which in that particular case had the specific gravity of 1035. The chief result of this analysis was, that the urine had a fairly normal amount of organic substances but that the quantity of inorganic substances was greatly reduced, indicating a retention of these inorganic salts in the blood.

There is then in most cases a marked disturbance of renal function, but I hasten to remark that it seldom leads to albuminuria, at least I have but rarely met with cases of early lead-poisoning in which the urine contained albumin. In some cases of lead-colic one finds a slight puffiness of the eyelids, but usually there is no edema except in cases complicated with albuminuria.

Of other disturbances on the part of the genito-urinary tract we need only recapitulate here briefly, that the patients often complain of a frequent desire to micturate, of burning in the urethra, and pain over the bladder. Objectively there is tenderness to pressure over the bladder.

*Manifestations on the part of the muscular and nervous systems.*—In the early stages of lead-poisoning we seldom find symptoms pointing to a deep affection of the somatic nerves. In some cases, as has been mentioned already, the patients complain of muscular and joint-pains. Occasionally there is also numbness. Objectively there may be some tenderness of the nerve trunks, and the muscles or joints may also be slightly painful to pressure. Both the subjective pain and the objective tenderness are usually very slight. Only in those cases which develop a lead-neuritis, that is palsy, the latter is commonly preceded by violent pain in the muscles, and less in the joints.

The deep reflexes are as a rule not altered although I have occasionally noticed a difference in the strength of the knee-jerk on the two sides. I have also found a lively biceps reflex in one or two cases. The pupillary reflexes are as a rule not disturbed. If a deviation from the normal is occasionally found, one feels doubtful whether it can be attributed to the effect of the lead.

A frequent accompaniment of early lead-poisoning is tremor of the hands. This tremor is fine, vibratory, and not increasing with intentional movements. Its fineness and rapidity distinguish

it from the coarse alcoholic tremor, it has on the other hand a great similarity with neurasthenic tremor, or with that of Basedow's disease. In connection with the enumeration of the symptoms on the part of the nervous system we may mention that in the stage of lead-colic sweat secretion is inhibited to some degree in many cases. It is difficult to start the sweat secretion but when it is once started, the patients usually feel considerably relieved. This inhibition of sweat secretion is apparently due to nervous influence in part. How much and whether it may be due also to parenchymatous changes of the sweat glands it is hard to say. In speaking of the symptoms on the part of the nervous system we must not forget to mention those manifestations which for convenience sake have been discussed in other paragraphs, namely, the vomiting, the constipation, the colic, the changes on the part of the circulatory system, especially the increased arterial tension, and finally the disturbances of renal secretion. We must be aware, however, that some of these disturbances may, in part at least, be due to parenchymatous changes of the organs themselves and not alone to changes of their nerve apparatus. Such is quite probable for instance for the kidney and may also be the case for the heart. But such alterations as the increased arterial tension or the colic cannot possibly be explained without the assumption of nerve changes presumably in the domain of the sympathetic nervous system.

In summing up, it is interesting to record the fact that the poisonous effects of lead on the nervous system are earliest exhibited in its vegetative part. In accordance with this the earliest nervous manifestations are met with in the vegetative organs such as the stomach, the intestines, the heart, and blood-vessels, and the kidneys. The early appearance, intensity, and frequency of the gastro-intestinal symptoms is, perhaps, best explained from the fact that the most frequent manner of introduction of the poison is by way of the alimentary tract; for it is suggestive to assume that the poison exhibits its effects first and mostly near the points of entrance, that in other words it acts first upon the ganglionic nerve apparatus within the walls of the stomach and intestines, such for instance as the Meissner and Auerbach plexuses. If in this manner we easily could account for the prevalence of the gastro-intestinal symptoms, vomiting, constipation, and colic, it is more difficult to explain on the same basis the marked changes on the part of the circulatory system, such as the high tension of the radial pulse for instance, which are found at about as early a stage

of the poisoning as the gastro-intestinal symptoms. But it is possible that the circulatory changes, especially the hard pulse, depend directly upon the gastro-intestinal nerve changes, being produced by these in the manner of a reflex.

#### DIAGNOSIS.

As a rule the diagnosis of the early stages of lead-poisoning causes no difficulty. Usually the symptom for which medical aid is sought, is the colic. Very often the patient himself leads one to the correct interpretation of this symptom by the statement that he works in a color-factory or that he is a painter or the like. If no such statement was made, a history of constipation of recent origin is an important guide. The first thing to look for in this case is the lead-line. The latter is seldom absent although not always very distinct. Further inquiry will elicit additional confirmatory evidence, such as nausea, vomiting, lessening of the daily quantity of urine, etc. Moreover, as has been mentioned in a previous paragraph, the patients often present a characteristic pallor and grayish-yellow discoloration of the skin. Examination of the circulatory system reveals usually the almost characteristic high tension of the pulse.

As to the distinction of the lead-colic from common intestinal colic we must keep in mind, that in the latter there is usually no tenderness, but that on the contrary deep pressure relieves the pain, while on the other hand in lead-colic there is decided tenderness to pressure increasing with the increase of such pressure. In gall-stone colic the location of the pain and of the objective tenderness is different, corresponding to the location of the gall-bladder. Moreover, the pressure-tenderness is greater and icterus is more apt to occur than in the case of lead-colic. Renal colic also is localized elsewhere, the pain being along the lumbar region; the pain is also more violent, and suddenly disappears when the stone has passed into the bladder. In lead-colic no such sudden disappearance of the pain is observed. Furthermore in case of renal colic the urine often contains blood.

More diagnostic difficulties are apt to arise if the cardinal symptom, the colic, is absent. Such a case came under my care recently. The patient had been a painter for 14 years, but had never suffered from lead-colic. When calling on me, he stated that for the last 8 days he had had pain in the chest, chiefly when taking a long breath. At the same time he has had some dyspnea

and since four days palpitation and pain in the region of the heart, radiating at times into the back. For 2 days he had complained of muscular pain in the right arm and shoulder, chiefly when raising the arm. Since the onset of the disease he had been constipated, but had absolutely no abdominal pains. The urine was darker than formerly but not scanty, and without sediment.

The objective status was as follows: Herpes eruption at the right corner of the mouth. Lead-line on the lower gum, not very distinct. Very marked although fine vibratory tremor of the hands. Appearance, on the whole, pale but changing; the face being at one moment quite pale and then again of rather good color. Pulse about 80, on the whole hard, but its tension changing within a few beats. Heart sounds somewhat overloud, with regular rhythm over the apex, but over the base there is, every few beats, a reduplication of the second sound. Distinct dyspnea. Some tenderness of the left median nerve. No pressure-tenderness of the pectoralis or other muscles. Right knee-jerk exaggerated but exhaustible. Left knee-jerk distinctly less lively. Urine not high-colored but specific gravity 1034. No albumin. No sugar. Under a treatment directed toward a rapid elimination of the lead, improvement soon took place. Four days after the first examination I took the following notes: Feels considerably better. Dyspnea hardly noticeable now. No more palpitation, no more pain in the region of the heart. Pulse 88, on the whole hard. Urine specific gravity 1018. Gradually the constipation was relieved entirely, the tremor almost disappeared, but the reduplication of the second sound over the base of the heart remained.

In this case, although there was no colic, I was led to make the diagnosis of lead-poisoning by the fact that the patient was a painter, by the lead-line, the acute and otherwise unexplained constipation, the slight tenderness in the scrobiculum, the quality of the pulse which although changing in tension was on the whole hard, the fine vibratory tremor, the high specific gravity of the urine, and the slight changes on the part of the heart-action. The disappearance of some of the symptoms and the subsidence of others under appropriate treatment confirmed the diagnosis on the whole; yet further observation gave reason to doubt whether lead-poisoning was solely responsible for the condition. It seemed more probable on the contrary that the latter was, in part, of a neurasthenic nature.

## PROGNOSIS.

The prognosis of the stages of lead-poisoning which have been considered in this paper is favorable; for the attack itself is usually completely recovered from. Yet, in rare instances, a fatal termination has been observed. The prognosis as to recurrence depends, of course, upon whether the patient continues to expose himself to the influences which brought on the poisoning. In continuing to expose himself to the entrance of the lead into the system, the individual risks being attacked by those graver forms of the poisoning which lead to palsy and muscular atrophy and other more irreparable conditions.

## PROPHYLAXIS AND TREATMENT.

The object of the prophylaxis is to prevent the entrance of the lead into the organism, or, if this is not entirely possible, at least its accumulation therein. Where persons are by occupation constrained to expose themselves constantly to the contact with lead compounds, this purpose is naturally rather difficult to accomplish, yet constant observance of certain precautions goes far toward the protection of such persons, and indeed fewer cases of lead-poisoning would occur if these rules of precaution were followed. Very often however this is not the case, sometimes owing to a lack of knowledge of the dangers incurred, still more frequently from carelessness. If we know the manner in which the poison enters the body, the means to prevent such entrance become evident. The mouth and the nose are the most common avenues by which the poison enters. It gets into the mouth most frequently with the food which becomes contaminated by contact with the soiled hands. Therefore to prevent this manner of introduction of the poison scrupulous cleanliness is essential; the hands especially ought to be washed frequently and thoroughly, particularly before meals. The entrance of the lead-salts by way of the nose occurs by inhalation either in the form of fumes or, what is probably much more frequent, in the form of fine dust. Such inhalation may occur also through the mouth especially in mouth-breathers. To the inhalation of lead compounds in the form of dust, workmen in lead-color works are particularly exposed. To lessen the possibility of inhalation of lead dust these workmen are advised to wear especially constructed masks. It seems, however, that very few workmen avail themselves of this de-

vice. Moreover, the owners of lead-color works do not seem very confident of their efficacy. This was at least the impression which I gained from a conversation with one owner of a color-mill. Therefore, instead of letting the workingman work in an atmosphere filled with color-dust and attempting a posteriori to eliminate this dust from the air they are breathing, it would seem more rational to prevent the atmosphere of the work-room from being impregnated with the dust particles of the color. This could perhaps be done by performing the whole grinding process under cover, that is in closed receptacles so that the dust formed could not pass out into the atmosphere of the work-room. Of other manners of entrance of the poison I shall not speak, in order not to unduly prolong this paper. I must not omit, however, to mention a prophylactic measure successfully employed by workmen of long experience, namely, to always keep the bowels open, in other words, to use physics or rectal injections as soon as the least constipation appears.

The actual treatment of early lead-poisoning must be conducted along two lines; it has to be (1) symptomatic, alleviating the distressing symptoms, (2) curative, implying a rapid elimination of the poison from the system. A distinct separation of these two lines of treatment cannot be made, since symptomatic measures have often at the same time a curative effect and *vice versa* the curative proceedings may effect also an immediate symptomatic relief. As has been pointed out already, it is usually the colic that claims our first and chief attention. To relieve this pain, opiates are usually recommended, but in the writer's experience they often failed to accomplish this purpose. If any effect is to be reached at all it must be by large doses which, of course, have to be given at long intervals; small doses at regular intervals of 2 or 3 hours, are ineffective. When I employ opiates, I usually give morphine in a dose of  $\frac{1}{2}$  grain, and repeat it if necessary in eight to twenty-four hours. I have never found it necessary to resort to injections of morphine and I believe that it is better to avoid these. Instead of using narcotics I prefer to secure a palliative effect by the application of heat. This is done in the form of frequently renewed poultices which cover the entire abdomen. Beside this local application of heat it is very useful to employ heating in general, with the purpose of starting a general sweat secretion. This can be conveniently done by surrounding the patient with about a dozen of bottles filled with hot water and wrapped in flannel. Moreover, the patient is told to drink hot gruel or hot

lemon-water or something similar to help start and keep up the sweat secretion. It is essential in general to let the patient drink freely, as this greatly furthers the secretion not only of the sweat glands but also of the kidneys. As the urine commonly is of high specific gravity a dilution of it by the ingestion of large quantities of fluid is highly desirable. Such favorable effect upon the kidneys can be assisted by the administration of diuretics. In this respect I have seen acetate of potash do very good service. I usually prescribe a saturated aqueous solution of this drug and let the patient take 20 drops of it every 4 hours, increasing this dose by 5 drops every day until intolerance develops. Then the use of the drug is stopped entirely for 24 hours, then resumed in slightly reduced doses.

A very troublesome symptom is constipation which is usually very obstinate and which must be combatted very energetically since it favors the retention of large quantities of the poison in the system. Administration of physics through the mouth is greatly hindered by the existing tendency to nausea and vomiting, therefore we do well to first combat the constipation by means of liberal injections of warm water into the colon, which by the way has also a diuretic effect. These injections ought to be given every day for some time. As soon as the tendency to vomiting is sufficiently lessened to allow the ingestion of cathartics by the mouth, such should be freely given. It hardly needs mention that calomel is absolutely contra-indicated, as the constipation is frequently so obstinate that in spite of the largest doses hardly any effect is reached; consequently the calomel may be retained and we run the risk of adding mercurial-poisoning to the lead-poisoning. The cathartics applied should be such that their retention and absorption can do no harm. Castor oil, sulphate of magnesia, infusion of senna leaves are therefore the laxatives to be employed. They should, however, not be used ad infinitum, but stopped when the bowels resume their normal function; unless the persistence of other symptoms of lead-poisoning makes it desirable to still continue this means of evacuation of the poison.

The symptoms on the part of the stomach require usually but little special attention. The vomiting subsides very soon when the general condition improves.

The symptoms on the part of the circulatory system are important diagnostically; subjectively they rarely give any trouble. They improve under the general treatment and require no special care. When the acute symptoms have disappeared, the general



treatment should still be kept up, especially diuretic and diaphoretic procedures. For the latter I should recommend vapor baths, which might be improvised also by the poor man. To effect a strong diaphoresis in the acute stage of the disease I would suggest tentatively the use of hypodermic injections of pilocarpine, although I have not had any experience in this regard. If pilocarpine is applied, however, its effect should be strictly watched and I should use not more than one centigram for the first injection.

#### DISCUSSION.

Dr. E. H. Bartley: There is not very much that one can say in the discussion of a paper so well rendered as this, being a complete résumé of the subject and so thoroughly covering every detail. But, of course, in hearing a paper of this kind we receive impressions, and two or three came to me which I can present, perhaps, in the discussion of the paper, as a practitioner's experience with lead.

The first point concerns the constancy or intermittency of the pain. In all the cases that I have seen, the pain was of a continuous character with exacerbations. The writer says the pain in his cases was frequently intermittent, but I have usually seen it continuous with exacerbations, and relieved by pressure.

I did not understand the writer to impress the fact that the pain is relieved by pressure. In most cases there is not much tenderness, and you can press quite deeply without increasing the pain.

The relation between the high tension pulse and the small quantity of urine of a high specific gravity is the next point. Real high blood tension usually means that a larger quantity of urine than normal must be filtered; therefore, it would seem a very difficult matter to me to explain why a high blood tension goes with a low quantity of urine.

In his prophylactic measures he did not say anything about sulphuric acid lemonade. It is quite a common thing in the white-lead factories to supply to the employes lemonade acidified with sulphuric acid. The idea is to provide  $\text{H}_2\text{SO}_4$  enough to combine with the lead, thereby getting the sulphate of lead, which is insoluble, and can be gotten out of the intestinal canal. Theoretically, it would seem a very proper treatment, as there is no salt of lead so insoluble as this. This I have said has been done as

the recognized prophylactic measure among the workers in soluble lead.

Several years ago some cases of lead-poisoning occurred on the Bark "Dona Zola," which came to this port from Brazil. During the voyage many of her crew were ill. One or two died at sea, and one more in the hospital here, from what appeared to be lead-poisoning. Previous to this cruise there had been no cases of the kind on board. The tank of the bark, in which was stored the fresh water, had been painted a year previous in Norway. Leaving that country she cruised down the European coast, and touched at several ports, Cadiz being the last. Then she sailed for Rio, and when about two weeks out from Cadiz, one or two of the crew became sick, though it must be understood that the whole crew did not become sick until after they had left Brazil for New York. The water they had taken on at South America, contained sulphates, nitrates, and organic matter. The water they had used previously was hard, and there was no solution of lead by it. The water of the South American port was soft, and taken from a small stream—some said a pool out in the road, and contained nitrates, sulphuric acid, and organic material. On the bottom of the tank in which the water was stored, the sulphate of lead was found in large quantities. About a year before the tank had been painted with red lead. As long as the water used was hard, nothing happened. When it was changed, the paint was dissolved by the nitrates and then converted into insoluble sulphate, and the particles of lead sulphate, by the rolling and pitching of the vessel, were agitated, so that the crew were poisoned by taking it into their alimentary canals.

There was no lead in solution in the water, and the fatal poisoning must have been due to lead sulphate. I thank the writer of the paper for presenting so complete a review of such an important subject.

Dr. William Browning: Mr. President:—There is a point about the etiology of lead-poisoning that is worth noticing—particularly in painters. Those who continually use fresh paint never get it; those who scrape the old paint off doors and walls, and handle or mix old paints do because they inhale the dust. There is little danger in the use of fresh paint.

When one has had metallic-poisoning he is more susceptible to lead-poisoning than one who has not; that is, for instance, a man who has been salivated by mercury, is more susceptible to lead-poisoning than one who has not. It is the same with arsenic.

There is quite a distinction between the cases of rapid causation and those in which the system receives minute quantities continued for a long time. The rapid case is one type and the other an entirely different one. In the former you more often see colic. In the slow cases lead-colic rarely occurs; but in its place are other severe symptoms in the way of nervous manifestations.

The blue line on the gums is more noticeable and is found more frequently in those cases where there is foul matter about the teeth or where there are bad teeth generally. In children there is no decomposition on the gums and thus no sulphur to combine with the lead, and so they rarely exhibit any blue line.

I would like to ask the author whether the peroxide of hydrogen test will distinguish other forms of blue or gray lines due to metallic poisoning. In mercurial-poisoning there may be a faint blue line, and with arsenic a gray line.

There are also cases of lead toxemia causing gout with greatly developed nodes, and occasionally in this manner nephritis follows lead-poisoning.

In Dr. Bartley's case of the sailors lead might have been in solution and only so much settled as was neutralized.

There is one point that I think is very important in the treatment. It is a very common method to start giving the iodides right away. This flushes the system with lead, and may make an enormous increase of its symptoms. In the majority of cases you will find there is lead on the gums, and it has even been found in a sulphid deposit lining the gut; the iodid gets at this. The first thing is to get the free lead out of the system. I begin with an alkaline sulphate, as Glauber salt, thinking to neutralize the lead and then wash it out as thoroughly as possible. Give opium until you get its effects. In a case of colic it is a laxative. Give it with the sulphate; and have the person clean the gums, nails, and nose often. Then after a couple of weeks the iodides may be used, though it is very foolish to use them until after you have cleaned out the system. There is a very successful method used in the mines and reducing works of Colorado for the prevention and cure of lead-colic, but I only recall that belladonna was employed.

There is a distinction as emphasized by Dr. Shaw between the wrist-drop symptoms due to nerve-pressure and those of lead-poisoning. Lead is selective in the group of muscles affected, while pressure on the musculospiral involves all the muscles

supplied by that particular nerve including the long supinator of the fore-arm.

Dr. E. H. Bartley: Concerning my statement about the sulphate of lead in the tank, I omitted one sentence: the water contained no trace of lead.

Dr. W. H. Haynes: I was very glad the doctor's paper was not confined to chronic lead-poisoning alone. In clinical experience I have had persons, not painters, where I was unable to fall back on poisoning from occupation, and in which the diagnosis of lead-poisoning was made by exclusion. Dr. Shaw cites one case where lead-poisoning came from washing lager beer bottles with shot. Others are quoted by Stewart of Philadelphia, of poisoning by the chromate of lead used in dyeing buns yellow. The latter cases occurred in children and were characterized by coma, convulsions, and a great number died. This led to the adoption of a relative measure prohibiting the bakers from coloring their buns yellow. You will find the report of these cases in a late number of the *American Journal of Medical Sciences*.

There is another manner of lead-poisoning for which we practitioners are partly to blame. I refer to the unrestricted use of lead and opium pills and lead and opium suppositories.

The acute form of colic may also be accompanied by delirium, convulsions, coma, and gastro-enteric symptoms. I have observed quite a number of nervous symptoms while studying these cases.

The point brought out by Dr. Browning is important, that when the ingestion of the lead is rapid there is an acute colic; where it is chronic there is a slow development of the systemic symptoms without colic.

One does not always see the "blue line" as reported in the books. Secondary kidney affections, such as endarteritis, and nephritic cachexia are quite common.

It is not uncommon in cases of long standing to have albumin in the urine, and occasionally cerebral hemorrhages, epilepsy, hemiplegia, and tremor.

I think the gouty pains are not uncommon; one can be afflicted with gout and lead-poisoning at the same time. Still it is very common to have articular pains in cases of long standing, very similar to gout, in which there is no gout present.

Insanity, hallucinations, and tremor occur when lead-poisoning occurs in the alcoholic and syphilitic simulating paresis.

Dr. J. M. Van Cott: Nothing was said about the electrolysis of

lead pipes in cities where there are trolleys I mean the lead pipes that enter the houses from the water-main. I am sure this is productive of many cases of lead-poisoning.

Dr. E. M. Childs: I simply wish to make this remark: that there is frequently a great deal of difficulty in ascertaining just how the poison gets into the system. I remember one instance where two men in the country were attacked with colic. After recovery they returned to their work for a few weeks and then became sick again. This continued until it became monotonous. It was discovered that they had got lead-poisoning from putting lead type in their mouths, and thus it got into their systems.

Dr. E. H. Bartley: I should like to ask some of the gentlemen who have been in practice a long time, if they can give any reason why corrosive lead pipes are required to be used in this city to replace the iron ones, and whether this has given rise to more cases of lead-poisoning of the slow variety than was frequent ten years ago. And also, whether we are seeing more cases from obscure causes now than formerly. Lead pipes are rapidly corroding since the introduction of the trolley. The lead goes somewhere, perhaps in the current of water going through the pipe, or else lies on the outside of the pipe and goes into the soil. It is possible in the early morning to detect lead in the water that has remained in the pipes during the night.

Brooklyn water can always be relied upon to contain an abundance of nitrates, for which it is notorious. All authors agree that the presence of nitrates in water promotes the action of water upon lead pipes.

Dr. G. A. Evans: Some years ago Dr. Lewis A. Sayre drew attention to the face-powder called the "bloom of youth." He claimed it was full of lead and that its use caused wrist-drop.

Not so very long ago legislation was secured which prevented potters from glazing their stone-ware with lead, owing to the fact that such employment had caused quite a number of cases of lead-poisoning.

Dr. B. Onuf: I have to thank the gentlemen for the many suggestions I have received and also to state that I still have much to learn. Dr. Bartley said, in his experience with these cases the pain is generally constant. This has been also my experience when the colic was fully developed. At the beginning of the disease, however, I find that the pain is not constant, but appears only at intervals.

Regarding increased arterial tension I wish to say that I am

fully sensible to Dr. Bartley's argument that such usually tends to increase the quantity and lessen the specific gravity of the urine. Yet, although I cannot account for this discrepancy, I must insist that in lead-colic the presence and combination of high arterial tension and high specific gravity of the urine are almost characteristic.

I am very thankful to learn about the sulphuric-acid prophylaxis. It was not known to me before, and I shall try it in the future.

Unlike Dr. Browning I cannot say that I have noticed such a marked difference in the slow and rapid varieties, but I admit that my experience with cases of lead-palsy has been much less extensive than with cases of lead-colic without palsy.

I have found the lead-line on the gums pretty constant. I admit also the decomposition around the teeth to be a frequent accompaniment and a possible cause of the lead-line, but the manner of entrance of the lead has certainly also something to do with the production of this line and it is most apt to be deposited directly on the gums when entering the body through the mouth.

As to the etiology, in answer to Dr. Haynes, it was not my intention to cover the entire ground in my paper. I merely mentioned the etiology that covered my cases.

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## CHRISTIAN SCIENCE CONSISTENCY.

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A remarkable evidence of the want of consistency displayed by the Christian Scientists is shown by a lawsuit referred to in the *New York Times* for November 25th. It appears that a man having fallen into an unprotected areaway "believed himself," according to the jargon of these mountebanks, to have sustained certain injuries, and was attended by one of the practitioners of this cult and "cured" by his ministrations. This beautiful specimen of consistency thereupon brought an action in the district court of Des Moines, Iowa, to recover damages against the owner of the areaway for contributory negligence in the production of something which, according to his own theory, could not possibly ever have existed outside of his own imagination—*viz.*, the injury. This was the view the judiciary took, and the litigant got only derision in place of damages when the verdict assured him that injuries which could be cured by Christian Science must have been too trivial to be estimated even in cents.—*N. Y. Med. Journal.*

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## EDITORIAL.

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JOHN B. HAMILTON, M.D.

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Dr. Hamilton died of peritonitis on December 24th, at Elgin, Illinois, at the age of fifty-one. Few men were better known in the profession. His career was a most varied and active one. Graduating at Rush Medical College in 1869, he was for a time in general practice, but in 1874 entered the U. S. Army. In 1876 he left the army to enter the Marine Hospital service as Assistant Surgeon, becoming Supervising Surgeon-General in 1879. Some years ago he left the public service and became Professor of Surgery at Rush, and held other important professional positions. In 1893 he became editor of the *Journal of the American Medical Association*, a position which he ably filled. Dr. Hamilton was a man of strong convictions and has left an impress upon the Association which will be permanent.

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DR. FRANK E. WILSON, M.C.

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For the first time in the history of Brooklyn, one of its physicians has been elected to Congress. We congratulate the

profession on the honor conferred upon them, and predict that in all matters pertaining to public health which may come before that representative body, Dr. Wilson will take no subordinate part. In a future issue we shall publish a brief sketch of the doctor's life with his portrait.

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JOHN BYRNE, M.D., LL.D.

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We tender our congratulations and those of our readers to Dr. Byrne on the successful termination of his recent suit. The attempt on his part to obtain what was due him for professional services rendered, was met by a counter-claim of many times the amount of the original claim. The counter-claim was based upon an alleged failure on the part of Dr. Byrne to distinguish between an abortion and an ectopic gestation, and as a result, the services of other physicians were made necessary. The counter-claim included payment for these services, for nursing and for medicines. The jury very promptly rendered a verdict for the full amount claimed by Dr. Byrne for attendance on the patient.

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THE WOMAN'S AUXILIARY TO THE BUILDING COMMITTEE OF THE MEDICAL SOCIETY OF THE COUNTY OF KINGS.

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We would call especial attention to the announcement of the Woman's Auxiliary which appears elsewhere in this issue. The President, Mrs. Langstaff, has surrounded herself with as energetic and capable a body of co-workers as was ever gathered together, and the magnitude of the task which they have assumed calls not only for the sincere thanks of every member of the Society, but also for their hearty assistance in increasing the membership of the organization. To perform the duties which the President has laid out for the Committees, without imposing too onerous duties on them, requires at least five hundred members, while now there are not more than three hundred and fifty.



SUBSTITUTION.

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That substitution is practised by many pharmacists there can be no doubt. Messrs. Fairchild Brothers & Foster deserve the thanks of the profession for the bold and energetic way in which they have followed up and published the names of those who have compounded prescriptions with other forms of pepsin when their essence was prescribed. We can, however, but consider the statement of the secretary of the Druggists' League for Shorter Hours as something of an exaggeration, that more than a hundred persons are killed each year in New York by the substitution of one drug for another in making up prescriptions. Some of these substitutions are made, he says, deliberately to increase profits, others are made by mistakes of overworked and half-asleep prescription-clerks.

It certainly cannot be that this secretary would have us believe that substitutions which kill are made deliberately to increase profits! If there is even a tithe of truth in his statement, it would appear that something more radical is demanded than simply shortening the hours of drug-clerks. We prefer to believe that the secretary was misquoted, or that he spoke thoughtlessly, for it stands to reason that his statement must be a gross exaggeration.

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ST. JOHN'S HOSPITAL.

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A Surgical Clinic will be held at St. John's Hospital every Wednesday afternoon, at 2.30 P.M., to which the medical profession is invited.

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CRAMMING.

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Prof. Blackie of Edinburgh, tersely defines cramming as "that process in which there is no appetite before, and no digestion afterwards."

## PROCEEDINGS OF SOCIETIES.

### MEDICAL SOCIETY OF THE COUNTY OF KINGS.

*705th Regular Meeting, Held in Apollo Hall, December 20, 1898.*

The meeting was called to order by the President, Joseph H. Hunt. About 200 members present.

The minutes of the November meeting were read and adopted.

The Council reported favorably upon the following names:

Edwin Thompson Randall, N. Y. U., 1898; George H. R. Gorman, Univ. Penn., 1898; Christian E. Petersen, L. I. C. H., 1897; Vernon Edward Taylor, L. I. C. H., 1896; Levi Allen Neiman, Balt. Med. Col., 1897; Luigi G. Doane, Univ. Mich., 1871; Chas. W. Harreys, Jr., L. I. C. H., 1898; Victor Neesen, L. I. C. H., 1896.

#### APPLICATIONS FOR MEMBERSHIP.

F. B. Bergen, King's Highway, Gravesend, L. I. C. H., 1894, proposed by J. E. Sheppard and David Myerle; H. V. Duggan, 164 South 4th St., L. I. C. H., 1893, proposed by David Myerle and R. J. Morrison; John M. Taylor, 438 Third St., Brook'lyn, P. & S., N. Y., 1898, proposed by Membership Committee; Wm. Linder, 1727 St. Mark's Ave., proposed by Jacob Fuhs and David Myerle; W. H. Muchmore, 312 56th Street, Brooklyn, N. Y., proposed by Henry B. Read and J. H. Hunt; T. E. Brown, Clinton and Warren Sts., N. Y. Univ., 1890, proposed by A. T. Brissow and H. A. Fairbairn.

The following having been regularly proposed and favorably acted upon by the Council, were declared by the President elected to membership: John B. Busteed, Harrison C. Allen, Alexander Clements, Joseph F. Long, Walter T. Slevin, Eugene A. Lynch, W. Ross Martin, Edward M. DeCastro, Jr., Thos. J. McFarlane, C. LeGrand Kerr, Corresponding Member, Jas. D. Trask, Astoria, L. I.

The Historical Committee reported that during the past month the profession and this Society have lost two of its members, one of whom was very prominent: Dr. Geo. W. Baker who died December 5, 1898, who was a Censor of the Society and a mem-

ber from 1868 to 1886; Censor in 1875 to 1879 and Vice-President in 1880, and Dr. L. Chapman Smith who died December 9, 1898, a member of the Society from 1883 to 1890.

#### SCIENTIFIC PROGRAM.

"The Effect of the Toxines of Pathogenic Micro-organisms upon the Parenchymatous Tissues," by J. M. Van Cott.

Discussion by Drs. Fairbairn, Bristow and Bartley.

#### COMMUNICATIONS.

Communication was received from Dr. Kortright tendering his resignation as a member and as Censor of the Society. Resignation was accepted and the Acting Secretary stated that at the last meeting the resignation of Dr. Kortright as Censor was accepted and the Council selected a member to fill out his unexpired term as Censor which was contrary to the provisions of the Constitution and that their action was consequently null.

The vacancy in the Board of Censors having been announced by the President, motion was made that Dr. J. E. Sheppard be elected to fill the unexpired term of Dr. Kortright and that the Secretary be instructed to cast the vote of the Society for Dr. Sheppard. Dr. Sheppard was accordingly elected to be a member of the Board of Censors for the next month.

#### NOMINATIONS.

The President announced that nominations were the next order of business and called for nominations for President.

Drs. Jos. H. Hunt and Dr. J. M. Winfield were nominated for the office of President. Motion to close nominations made, seconded, and carried.

Dr. E. H. Bartley was nominated for Vice-President. Motion to close was made, seconded, and carried.

Dr. David Myerle was nominated for Secretary. Motion to close made, seconded, and carried.

Drs. R. J. Morrison and Warren J. Simmons nominated for Assistant Secretary. Motion to close made, seconded, and carried.

Dr. Chas. N. Cox nominated for Treasurer. Motion to close made, seconded, and carried.

Drs. John R. Stivers and O. A. Gordon nominated for Assistant Treasurer. Motion to close made, seconded and carried.

Dr. Wm. Browning nominated for Librarian. Motion to close made, seconded, and carried.

The following members were nominated for the offices of Censor: J. M. Winfield, H. B. Delatour, H. D. Hotchkiss, J. E. Sheppard, Albert M. Judd, C. D. Napier, J. M. Van Cott, H. A. Fairbairn, E. A. Wheeler, W. C. Wood, E. P. Hickok, J. W. Fleming.

Dr. Chas. Jewett was nominated for Trustee to succeed himself. Motion to close made, seconded, and carried.

No delegates to the State Society are to be elected.

#### REPORTS OF COMMITTEES.

The Building Committee reported that some ironwork for which they had been waiting had been received and the work on the building was proceeding more rapidly.

No Unfinished Business.

#### NEW BUSINESS.

Dr. Evans called attention to a practice which is being followed by some manufacturers of a patent medicine of leaving envelopes containing four tablets recommended for the cure of headache and other ills, in the doorways of houses, and pointed out the danger to children of finding these, and believed that they contained some of the coal-tar products and to the end that the matter might be brought to the attention of the Committee on Public Health, so moved. Motion carried.

Dr. J. H. Raymond read a letter from Mr. Wm. E. Jones of Cold Spring Harbor, Suffolk Co., New York, which referred to the deplorable condition of the poorer class of consumptives who visit Denver in the hope of securing health and are unable by virtue of their physical condition to work more than a few hours per day and then for small wages, the Rancheros wishing none but those who can work all day and longer if necessary, and pointed out the value of a consumptive's colony, such perhaps as the Craig Colony for epileptics at Sonyea, Livingston County, New York.

The letter further requested that the Society give its support to a movement now afoot for the Government to establish such a colony in its lands in New Mexico, Arizona, Colorado, or

Texas. After the reading of the letter Dr. Raymond moved that the matter be referred to the Health Committee. Motion carried.

Dr. Raymond presented for Honorary Membership the name of Dr. A. N. Bell and spoke of the value which the work of Dr. Bell has been to the country at large and especially to this Society. He referred to his many contributions to medical literature, and to practical sanitation. The motion was seconded by Jerome Walker, M.D., and unanimously carried and Dr. Bell was declared by the President an Honorary Member of the Society.

#### AMENDMENTS TO BY-LAWS.

Amendment made by Dr. J. H. Raymond to Chapter XV., of the By-Laws—Section 8, to read as follows:

"All physicians practising in the City of New York and on Long Island are eligible for membership in the Medical Society of the County of Kings with the rights and privileges and dues of resident members, except that on matters involving County representation only physicians registered and practising in Kings County will be entitled to vote."

Amend Chap., I. § 3 by substituting the word "Associate" in place of "Assistant" before Secretary and Treasurer, so that it will read Associate Secretary and Associate Treasurer.

Amend Chap. VII., substituting word "Associate" for "Assistant."

Amend Chap. IX., substituting "Associate" for "Assistant."

Amend Chap. XV., Sec. 5, so as to read: Sec. 5.—Members who shall not have paid the annual dues at the end of the year, after having been twice during the year called upon to do so, are declared to be "In arrears with the Treasurer," and their names shall appear on the list of members suspended for unpaid dues.

Present section 8 to be section 9.

Present section 9 to be section 10.

The President read a letter from Mrs. J. Elliot Langstaff, President of the Woman's Auxiliary to the Building Committee stating that but two hundred of the six hundred members of the Society were represented in the Auxiliary Society and asking for an increased representation. Dr. Raymond moved that inasmuch as it was too late to publish the letter in the January issue of the *BROOKLYN MEDICAL JOURNAL*, it be printed at once and a copy

sent to each member of the Society for his consideration and prompt action.

There being no further business before the Society the meeting adjourned.

DAVID MYERLE,  
Secretary.

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### BROOKLYN GYNECOLOGICAL SOCIETY.

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A stated meeting of the Brooklyn Gynecological Society was held Friday evening, October 7, 1898, in Apollo Hall.

1st Vice-President William H. Skene in the chair, 14 members present.

Dr. Geo. McNaughton presented a specimen of cystic kidney with the following history. The patient from whom this cystic kidney was removed is a woman aged 46 years. who was admitted into the Long Island College Hospital on September 19th. She stated that she became ill about the first of April, the most conspicuous symptom being excessive vomiting. During one of the paroxysms she suffered a severe pain in the right loin; this was the first sensation which directed her attention to that part of her anatomy.

After a time the stomach irritability became less but she developed a diarrhoea which has continued more or less since that time.

She went to the country hoping to recuperate; while there, was told by a physician she had a tumor and was advised to return to Brooklyn, which she did as soon as she was able. When admitted in the hospital she was much emaciated, skin slightly yellow; she was very weak and perspired after slightest exertions. Quantity of the urine was diminished and examination showed the presence of pus and slight amount of albumin. Temperature always above normal varying from 102° to 104° F., the highest point usually reached in the afternoon. Her general symptoms seemed to point to tuberculosis. As she did not improve under the treatment given we determined to operate on Sept. 29th.

The usual incision was made in the loin and increased transversely to make room for the delivery of the mass.

The tumor was soon and easily reached, it was seen to be cystic and found adherent to the surrounding tissues over its whole surface. After considerable careful work it was enucleated from its bed, raised up and vessels and ureter ligated in the usual manner. As will be noticed in the specimen some of the cysts

were ruptured, this occurred during the manipulation; some of the cysts contained pus which very likely accounted for the rise in body temperature.

The operation was accompanied by the loss of considerable blood and the patient suffered a corresponding shock from which she slowly rallied and has made a fairly satisfactory convalescence. The temperature after the operation fell to nearly normal and there has been no marked rise since. The wound was closed with the exception of space for a small drain at the lower angle; this drain was removed after twenty-four hours.

I was particularly interested in the fact that so large a kidney tumor (32 ounces in weight) could be removed without entering the peritoneal cavity.

Dr. Corcoran presented two hairpins with the following history:

The specimen which I desire to present consists of two hairpins removed from a pelvic abscess. I saw the patient first in January. She was 43 years of age, married, and the mother of six children, the last of whom was born eight years ago. Since then she has not been pregnant and the menstrual history has been normal. The attending physician could only give me a history of pelvic pain accompanied for the last two or three weeks with increasing septic fever. Physical examination showed a fluctuating tumor on the left of the uterus which crowded that organ upward and to the right. The patient was removed to the hospital and the tumor opened by vaginal incision. A quantity of foul-smelling pus was evacuated and considerable broken-down tissue removed by the finger. The cavity was irrigated and packed with gauze. This treatment was continued daily. The abscess promptly contracted and closed in about three weeks. The patient remained well until the early part of August, about six months, when she suffered from a recurrence of the former symptoms and when I was again called to see her I found the condition practically the same as before the first operation. The vaginal incision was repeated and this time the cause of the difficulty was discovered in the two hairpins I show you. Why they were not discovered at the time of the first operation and during the daily treatment of the cavity for about three weeks I do not know any more than I can explain why, being still present, the abscess closed completely. The uterus regained its normal mobility, and the patient remained well for nearly six months. When or how the hairpins were introduced is not known. The patient disclaimed all knowledge of them but was

positive in the assertion, "I never swallowed them." I have since learned that three years ago she was confined in the Insane Asylum for a short time. This may furnish some hint as to the length of their sojourn in the body.

DISCUSSION.

Dr. A. J. C. Skene: The statement that the woman was in the insane asylum three years may explain the presence of the hairpins in the abscess. Insane women often introduce foreign bodies into the urethra or vagina.

In my service in the asylum I frequently found matches, hairpins, and other small objects in the vagina.

Perhaps a pruritus causes them to attempt to relieve themselves in that way. A lady, 70 years old, had a dermoid cyst rupture into the vagina and with the discharge came out quite a little mass of hair and she could not be persuaded that she had not swallowed her front crimps. I am reminded of this by the doctor's case.

The paper of the evening, "Lifting and Manipulation of the Uterus through the Abdominal Wall to Control Post-partum Hemorrhage," was read by Dr. Robt. L. Dickinson.

Discussed by Drs. Jewett, Chase, Corcoran, A. J. C. Skene, and Truslow.

A CASE OF CÆSARIAN SECTION FOLLOWED BY HYSTERECTOMY.

Dr. Jewett reported the following case: The patient was an Italian dwarf, 23 years of age, measuring a little less than four feet in height. The pelvis was of the flat rachitic type with a diagonal conjugate of  $3\frac{1}{4}$  inches. The diameter of Baudelocque measured  $5\frac{3}{4}$  inches; the inter-spinal exceeded the inter-cristal diameter and the pelvis was somewhat asymmetrical.

The left side of the pelvis was higher than the right, the lower extremities differing in length by about  $2\frac{1}{2}$  inches.

The operation was performed at the Long Island College Hospital on Oct. 3d, a few days before the expected date of labor. The placenta was implanted on the anterior wall and the uterine incision made directly through it. The child, a male, weighing a little less than 7 pounds, was extracted in 47 seconds from the time of the first incision.

Believing that the chances of a complete and aseptic recovery should be better with a hysterectomy than with the conservative



operation, the uterus was removed. To this step the consent of the patient and friend had first been obtained. To save the woman the disagreeable effects of the artificial menopause the ovaries were left.

The child is thriving and the mother is making a good recovery. From my experience in a considerable number of Cæsarian sections I am disposed to take exception to certain points in the usual technique of the operation. These questions may furnish a text for discussion at a future meeting of the society.

The Society then went into Executive Session.

The following officers were elected for the ensuing year: President, Wm. H. Skene, M.D.; 1st Vice-President, Robt. L. Dickinson, M.D.; 2d Vice-President, Wm. Maddren, M.D.; Recording Secretary, Frederic J. Shoop, M.D.; Corresponding Secretary, O. A. Gordon, M.D.; Treasurer, L.G. Langstaff, M.D.; Pathologist, Wilbur H. Seymour, M.D.

FREDERIC J. SHOOP, M.D.,  
Secretary.

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THE BROOKLYN PATHOLOGICAL SOCIETY.  
THE 398TH REGULAR MEETING.

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*October 13th, 1898.*

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The President, Dr. James E. Sheppard, in the Chair.

The program of the evening was provided by Section I. Dr. Lewis H. Miller, Chairman, and Drs. Ager, Brundage, Campbell, Collins, Ellarson, Fowler, Harrigan, Hopkins, Ingram, Laing, Maine, Peele, Rappold, Santoire, Sheppard, Stivers, Wallace, and Williams.

Twenty-seven members were present.

*Address by the President, Dr. James E. Sheppard.*

SCIENTIFIC BUSINESS.

Paper: "The Manner in which the Mastoid becomes involved in Middle-Ear Inflammations," by Dr. James E. Sheppard.

Paper: "Separation of the Epiphysis of the Lower End of the

Humerus, with Report of a Case of Anterior Displacement of the Epiphysis," by Dr. Russell S. Fowler.

REPORT OF CASES AND PRESENTATION OF SPECIMENS.

Dr. George G. Hopkins presented a specimen of Small Round-Cell Sarcoma of Thigh.

Dr. Hopkins: [presenting specimen]—With your permission, I shall present first, an exceedingly interesting case of Small Round-Cell Sarcoma of the Thigh. The patient was Mrs. H., aged fifty-six. I saw her early in September. She was suffering from a tumor which was diagnosed as an aneurism of the femoral artery. I went to see it expecting to find an aneurism. They had punctured it with a hypodermic needle and gotten considerable hemorrhage, which was difficult to stop. They immediately felt it was some form of hematoma. I could get no pulsation. The tumor was attached over the groin and femur, covering the artery and vein, attached also to the pubes and weighed three and a half pounds when removed. The dissection of it was very difficult and slow. The femoral artery was on the posterior aspect of the tumor and within it. The dissection was carried on along both sides. I first dissected it on the inner side, then along the outer and from above downwards until I succeeded in getting it out and leaving the artery intact. The patient was exceedingly emaciated.

*Case II. Compound Fracture of Fibula with loss of portion of the bone.*—This case is reported here to bring forward the cause of conservative surgery. The temptation to amputate was very great indeed. The boy begged that we try to save his leg. He was down at Bergen Beach on July 3d, and while watching the ascension of a balloon the guy pole fell and struck him. It fractured his leg three inches above the ankle, destroying the tissue over the tibia for a space of over five inches in length. The periosteum of the tibia was exposed and stripped up for about four inches. The right humerus and the left clavicle were also fractured. He was in a bad condition when he was brought in. He was taken to the operating-room of St. John's Hospital, and after getting him under ether the wounds were cleaned. With a good deal of effort the fracture of the leg could be reduced and the fragments could be put in place. I found on the other side of the fibula, at the lower portion, that a piece of bone was missing. It was brought to me two days later by somebody who thought I

might want to put it back into the leg again. I put up the humerus and clavicle carefully. I endeavored to return the periosteum but it had curled up and would not stay. There was a portion of bone exposed that must have been three and a half by one and a half inches. It was diamond-shaped and completely uncovered. The leg was put in a plaster-of-Paris bandage and a compress put over the periosteum to hold it in place. In a few days it was beautiful to see how Nature was covering up the bone. The boy is now walking. It took eight weeks to heal.

Case III. *Compound Fracture of the Cranium.*—The next case is an extensive fracture of the squamous portion of the temporal bone. The patient was at work building the structure in Cypress Hills that forms the connection between the Elevated Railroad and the Long Island Railroad, when a train came along and struck a derrick, demolishing it. A piece of the derrick struck the boy on the head. It was a compound fracture with the substance of the brain oozing through the wound. In operating on him I elevated a portion of the bone and removed this piece. It was a week or so after the other compound fracture, for I remember contrasting the two cases. The other little boy with all the fractures had no complaint to make, but this one was desperate. Several edges of the bone were chipped off. We used a saline transfusion and there was no suppuration notwithstanding all the dirt that had been carried in. If anybody cares to see this specimen I will pass it around.

Case IV. *Amputated Coccyx.*—This other specimen is a coccyx from a young lady who came to me from Binghampton. She was skating two years ago and fell on the ice. She had been using liniments and lotions without avail. The coccyx was standing out at right angles into the rectum. I amputated it and she has gone home feeling all right. There was suppuration at the extreme end of the bone. She made a good recovery. The woman was thirty-one years of age.

#### DISCUSSION ON DR. HOPKINS' SPECIMENS.

Dr. Wood: The diagnosis between certain cases of sarcoma and aneurism is often extremely difficult, and I think we should be very charitable in judging too hastily those who might form a wrong diagnosis. These tumors often pulsate, and are called pulsating sarcomata. They are usually found at the lower epiphysis of the femur, where, I think the diagnosis is extremely

difficult, unless great care is taken to determine which of the two it is.

Regarding the conservative surgery of the fibula, I would say that I once removed a whole fibula, saving a limb and enabling the patient to walk about. The entire bone was taken away, saving the periosteum from which new bone was developed. There are three bones—the lower jaw, the clavicle, and the fibula—in which conservative surgery is almost always successful.

Dr. Hopkins: I would say, doctor, that there was no pulsation in my case at all. Neither was there any bruit. The diagnosis of aneurism was made from the hemorrhage that took place when it was punctured.

Dr. Read accompanied the case in and said: This is not my hours and not on other days. Dr. Lewis had a case last year which was diagnosed as sarcoma and aneurism. It was diagnosed both ways in Brooklyn. There was a distinct bruit and pulsation. The bruit could be detected with the stethoscope. The pulsation was not expansive. I have seen the best men in the two cities change their minds over this case.

PRESENTATION OF A CASE OF HYDROCEPHALUS BY DR. J. R. STIVERS.

Dr. Miller: Mr. President, Dr. Stivers had to go away, and what I know about this case is only what he has told me. The child is about seven-months old. Hydrocephalus developed during the fourth week. He has had the child on potassium iodid for two months, and there has been considerable improvement. I will bring the case in.

case. I have seen it for the first time to-night. Dr. Stivers has been treating it. It is a child seven months old. The first child I believe, from healthy parents. The labor was very natural and easy. The head began to enlarge when the child was four weeks old and kept on until it came into Dr. Stivers' hands. It has been much larger, the mother says, than it is at present. I do not know what has been done in the way of treatment. The protruding eyes with the downward tendency are not prominent in this case. The posterior fontanelle is closed, the anterior fontanelle is open and all the sutures are open. It is a nice-looking child, the body is well-developed, and he still nurses at the breast. It does not cry much, and the hydrocephalic cry that we hear so

much about is certainly absent in this case. The cheeks are very good; fresh, firm, and above the average. The trouble was congenital. It is an ordinary case of internal hydrocephalus, with an effusion into the ventricles.

Of course I cannot speak about the treatment because I do not know what has been done for the case. Surgical measures have done much for the relief of hydrocephalus. I reported a case where considerable temporary improvement resulted from puncture with absolute evacuation of the contents. Tapping, with injections of iodine did not give good results.

I had another case under my care for a great number of years. It first came to Long Island College Hospital as an infant and lived up to eighteen years of age. The head was thirty-four inches in circumference. He was not able to walk, sit up, or feed himself. The brain was intellectually developed. I knew him very well myself. No autopsy on the case was permitted, so the exact condition was unknown. I am glad Dr. Stivers has got such good results and I hope that they will continue. Successive tappings, followed by constant pressure are efficacious in these cases. The pressure is made in the ordinary way, the surgeon makes pressure, as in strapping a testicle. Firm pressure is made with strips or bandages on the convexity of the skull, and considerable relief is afforded for the time being.

This case is more of a rachitic nature than a true hydrocephalus. The effusion passes from one ventricle to the other through the foramen. It is undoubtedly intra-uterine in origin. The tubercular tendency has not been disproved. Cases of chronic complete hydrocephalus are not due to tuberculosis.

#### PRESENTATION OF SPECIMEN BY DR. S. R. SANTOIRE.

#### HYDATIDS OF THE UTERUS RESEMBLING PREGNANCY.

Paper was sent by Dr. Santoire and read by the President, Dr Sheppard.

This specimen is from a woman aged 38 years, had three healthy children, oldest one now seven years of age. She had one miscarriage at three months, four years previously. All the ordinary symptoms of pregnancy were present except a show of about one ounce of a thin sanguinolent fluid, discharged monthly for one day. Was examined at 5th, 6th, and 7th months, uterus naturally enlarged and in the normal position for these periods,

but the soft feeling of the growing uterus and the absence of life made one suspicious. Milk was present in the breasts. The urine was very slightly albuminous. Labor commenced at the expected time, dilatation was awaited for 24 hours, then finding no signs of a living child, forced dilatation was decided upon. After three hours, aided by Dr. Palmer, the whole uterus was curetted while under regular expulsive contractions and delivered of over a quart of the material presented, resembling pomegranate seeds. The patient recovered in twelve days. Six months later she returned with a chronic endometritis and pulmonary tuberculosis, from which she died in about a year, without a return of menstruation. Although the best writers are inclined to doubt the independent origin of hydatids and to reject them as acephalocysts, yet, it appears almost undeniable that the present specimen was a beginning tubercular ovarian degeneration and a large number of transformed folliculi were agglomerated in the uterine cavity until it became distended to its parturient point.

#### PRESENTATION OF SPECIMEN.

##### FATTY DEGENERATION OF PLACENTA.

Dr. Mary De B. Ingram: This specimen shows the condition of fatty degeneration of the placenta. It was a case of miscarriage which took place on August 18th. The development of the embryo indicates a pregnancy of four months. The woman was forty-one years of age, and had twelve children and eight miscarriages in twenty years. She weighed 210 pounds and was in a state of general obesity. Her last menstruation was on the 20th of April. The miscarriage occurred on the 18th of August and for three weeks following there was a sanguineous discharge going on.

#### DISCUSSION OF DR. INGRAM'S SPECIMEN.

Dr. Hopkins: I have seen cases that resembled this condition where there was a dropsy of the amnion. It looks to me as if this was one of those cases.

##### FOREIGN BODY IN THE ESOPHAGUS.

Dr. L. H. Miller: "I have a specimen here that is not very recent. It was suggested by a case that occurred in the clinic to-

day. Last Tuesday a lady was eating some boiled beef, when some one cried "Fire!" She swallowed what was in her mouth suddenly, while turning around. She came to the clinic complaining of a severe pain and an inability to swallow food. I passed a probang into the stomach and brought back a portion of beef and bone.

In this case, I removed this piece of bone from the esophagus about three inches above the stomach. The patient was eating mutton pot-pie and one-half of the spinous process of the sheep lodged in the esophagus. The bone was sawed on three sides. It lodged about three inches above the stomach opposite the heart. The patient complained a good deal about the severe pain about her heart. I knew her well and did not mind her, but when on passing a bristle I brought up this, I saw instantly that she was suffering a good deal of pain. It is quite large and has two sharp corners. A case is reported where a plate with two teeth attached was swallowed by an insane man, and it was found to have penetrated the pericardial sac.

Another case that is very interesting is that of a boy four years old, who swallowed a large-sized tin-whistle. It passed into the stomach although it was very large and was passed per rectum within forty-eight hours afterwards.

#### DISCUSSION OF DR. MILLER'S SPECIMEN.

Dr. Sheppard: I think Dr. Miller will remember about a case of spasmodic stricture which occurred last year. This was a case where a girl thought she had swallowed a piece of chicken bone. By giving her water and listening over the esophagus I did not get any signs of obstruction. I made up my mind it was a nervous condition. I sprayed the back part of her throat with cocain and told her she could swallow—and she did.

Dr. L. H. Miller: Quite frequently after a foreign body has been removed the sensation still remains. A patient will complain of all of the symptoms of a foreign body and the most thorough examination will fail to find one. One case I remember was an engineer. When he came to me he had taken nothing into his stomach for two days except a glass of water and that had regurgitated. He complained of a soreness and an inability to swallow. He had eaten a rind of pork and it lodged in his esophagus and remained there for ten days. After it was dislodged into his stomach the sensation remained for ten days.

## HISTORICAL DEPARTMENT.

### CORNELIUS NEVIUS HOAGLAND, M.D.

Cornelius Nevius Hoagland, son of Andrew, was born in Neshanic, Somerset County, N. J., November 23, 1828. In the year 1834 his father removed with his family to Ohio, settling first at Piqua, Miami County, and later at West Charleston in the same county. He attended the public school in West Charleston until 1845. He received also private instruction in Latin with a view of entering college when the opportunity should offer.

At the age of 17 he began the study of medicine with Dr. E. L. Crane, one of the leading physicians of Miami county, and two years later he attended a course of lectures at the Starling Medical College, Columbus, Ohio. In the winter of 1851-52 he attended the lectures of the Medical Department of the Western Reserve University of Cleveland, Ohio, and graduated in the spring of 1852.

On August 10, 1852, he married Eliza Ellen, daughter of Judge David H. Morris of Miami County, Ohio.

In 1854 he was elected County Auditor for Miami County, and re-elected in 1856, serving four years.

On the breaking out of the war for the Union he was a private in a volunteer military company, recruited in Troy, Ohio, and known as the "Lafayette Blues." This company entered the United States service under the call of President Lincoln in 1861, and on the reorganization and muster in of the company, Dr. Hoagland was made its First Lieutenant. The company was assigned as Company H, of the 11th Ohio Volunteer Infantry. In October of the same year he was appointed Surgeon of the 71st Ohio, and served as such until the close of the war, being mustered out with the regiment at Columbus, Ohio, in January, 1866. At various times during the service Dr. Hoagland was in charge of the field hospitals, being on the staff of the Brigade and Division Commanders. His principal service, however, was with his regiment in Tennessee, Georgia, Alabama, and Texas. The most notable engagements in which he participated were at Pittsburg Landing, Atlanta, Franklin, and Nashville. At Nash-



ville he was struck by a Rebel bullet, which penetrated the lapels of a heavy overcoat, producing a serious contusion of the integument covering the breast bone.

At the close of the war he engaged in mercantile pursuits, removing with his family to the City of Brooklyn, N. Y., in the year 1868. He was very successful in his business, and in 1876 retired with a well-earned competency.

About the year 1886, Dr. Hoagland, himself an accomplished microscopist, became impressed with the work which was being done by scientists in the department of bacteriology, and on June 1st of that year he signed the contract for the purchase of the site on which now stands the Hoagland Laboratory. He felt that in this field lay an opportunity to benefit mankind to a greater extent than in any other department of science, and with this end in view he founded the Laboratory. While he thoroughly appreciated the other departments of medicine, yet bacteriology was in his opinion the one science from which the most good was to be expected, and the construction of the Laboratory was planned and its equipment ordered with this as the main end in view. The cost of the Laboratory was as follows: Site, \$24,000; building, \$56,606.74; cabinet work and furniture, \$6675.19; apparatus, \$4090.17; library, \$3093.09; pavement, \$1064.65; in all, \$95,529.84. For a considerable time after the completion of the building its current expenses were met by him as the necessities arose. This expenditure amounted to \$10,765.06. This was doubtless done that he might know what amount was necessary to provide for its permanent maintenance. When this was ascertained he endowed it to the extent of \$50,000, and just previous to his death he supplemented this original endowment by the addition of \$24,000, making the whole benefaction aggregate \$180,294.90.

That Dr. Hoagland had no narrow view of the work which the Laboratory might accomplish is shown by his statement in the articles of incorporation, that it is founded for "the promotion of medical science and the instruction of students in special branches thereof." This is farther shown by the fact that he equipped to the fullest extent the Department of Histology and Pathology. Since the erection of the Laboratory 82 students and physicians, many of the latter in the service of the United States Army and Navy, have been instructed in bacteriology, and 1360 students in histology and pathology. These latter are now practising physicians in all parts of the world, and it is no exaggera-

tion to say that ten thousand individuals are the recipients of better and more skilful treatment by reason of Dr. Hoagland's large-hearted and open-handed generosity.

Dr. Hoagland was also an expert photographer, and hundreds of negatives taken by him in all parts of the world are in the possession of his family. He was especially skilled in photomicrography. In the organization of the Laboratory he became the director of this department, and there are now in the possession of the trustees a large number of negatives made by him, of which he made lantern-slides for the illustration of lectures by the Laboratory staff, and for use in popular lectures both in Brooklyn and elsewhere.

Dr. Hoagland was a fellow of the Royal Microscopical Society of London, and Life Fellow of the American Geographical Society of New York, the New York Genealogical and Biographical Society and the Long Island Historical Society. He was a regent of the Long Island College Hospital; a member of the Medical Society of the County of Kings; of the Military Order of the Loyal Legion; and a trustee of the following institutions, namely: Syracuse University, Antioch College, Adelphi College, the People's Trust Company, and the Dime Savings Bank, of Brooklyn, N. Y. He was also a member of the Hamilton and Oxford clubs.

The writer may not be thoroughly informed, but he knows of no physician in the great city of New York as it now exists who has given more generously to the cause of science and humanity. In addition to the founding, equipping, and endowing of the Hoagland Laboratory, Dr. Hoagland maintained during his life the Hoagland Kindergarten at the corner of York and Gold streets, at an annual expense of between \$1000 and \$1200, and just before his death he gave to it \$20,000 as an endowment. His appreciation of this work was expressed in one of his addresses, when he said: "This work impresses me as being the most rational and beneficent way of dispensing money for the benefit of the recipient. At the most impressionable age children are afforded an opportunity to get a character of mind and body that will be lasting and far-reaching, making them better and happier than they otherwise would be. I am profoundly impressed with the great importance of the work, and hope and believe that it may soon become more generally appreciated."

The Brooklyn Eye and Ear Hospital was also remembered by him, and its endowment fund increased by his liberal donation o

\$14,000. To Antioch College he gave \$7000. How many other institutions received financial aid at his hands is known by them alone. Of his private charities none can speak, for no man ever fulfilled more perfectly the injunction, "when thou doest alms, let not thy left hand know what thy right hand doeth."

For some time previous to his death Dr. Hoagland had not been in robust health, but even his most intimate friends had no reason to expect that the end would come so soon. On January 27, 1898, he went abroad, hoping that the change would benefit him, but long before he set foot again upon his native soil he doubtless appreciated his condition far better than others, for when he reached Beirut, Syria, although advised by the physician there to leave the steamer and rest awhile, he declined, longing to be at home again. On April 5th he reached New York, and gradually grew worse until the 24th of April, when he quietly breathed his last in the home he loved so well.

Dr. Hoagland leaves a widow and three children: Cora H., wife of George P. Tangeman, Luella J., and Elizabeth H., wife of Charles O. Gates.

In no way can we better show the great respect and esteem in which he was held by those who knew him than by quoting the expressions which his death called forth.

On April 25th, the day following his death, the *Brooklyn Eagle* published the following editorial, every word of which will strike a responsive chord in those who knew him.

#### DR. HOAGLAND.

Brooklyn loses a large-hearted, broad-minded citizen in Dr. Cornelius N. Hoagland, who ended his life here on Sunday night. He was country born, the stout constitution that is the basis of effectiveness in most affairs of life was his, and so were the ambition and intellectual eagerness that are characteristic of American youth. He had the varied experiences that fall to men in this country more than to those of any other, and before he had attained middle age he had held political office, had tasted war, had been retired to a hospital by reason of a wound, had graduated as a surgeon, had engaged in trade, and had finally become the head of a large and successful manufacturing enterprise. The public has shared in the gains of this company, for Dr. Hoagland has contributed to it liberally from his share of the profits. He was not spectacular in his gifts nor in his methods. He did not seek fame or advertising. He was prompted solely by interest in his city, by a regard for humanity, by an affection for the calling that had given to him his own rise in the world. Hence his gifts were mostly to eleemosynary and educational institutions, especially to those connected with the practice of medicine and surgery. About ten years ago he founded the Hoagland Laboratory, which is one of the most valued adjuncts of Long Island College Hospital, and from

time to time he gave sums to the trustees for its extension and equipment that in the aggregate have amounted to nearly a fifth of a million of dollars. He was a liberal donor likewise to the Eye and Ear Hospital and the Kindergarten Society. As a physician, a scientist, and a man of affairs he had recognition in other departments, and he was a trustee or director or honorary or active member of banks, universities, societies, libraries, and clubs. Learned bodies made him their fellow for life; he was president of the board of directors of the laboratory that he founded and a regent of the college with which it was allied. Dr. Hoagland was a man of mark, and albeit he did not spend money in a way to make his name so common a property as that of Pratt or Peabody, the public has a lasting gain from it. The object of his laboratory is to further scientific investigation, and this is an age of science; it is the age of the new, it is the age of progress. His laboratory may yet become world famous as the scene of discoveries that shall bear importantly on the science of healing, for it appears as if two-thirds of all diseases would presently be traced to microbes, and the sooner the origin and character of the germs have been ascertained in the laboratories the sooner will the drugs or serum needed for their destruction be found. Brooklyn is especially a debtor to this generous citizen, and the gifts of men like him cannot fail to reconcile even that small but troublesome company of the destructive and the envious to the getting of wealth in which they do not personally share, although in many ways they enjoy its benefits. It is to the freely-given money of prosperous and right-minded people that this country owes many of its schools, nearly all of its universities, at least half of its hospitals, dispensaries, homes, asylums, libraries, and art galleries. Such things, though always wanted, are seldom ordered or long continued by the public itself. The mere necessities of municipal life require so heavy a tax that what the people want for recreation, the higher learning, books, and art, must needs be given to them out of the abundance of some fortunate man. The rich are trustees of wealth, their money, to be remunerative, must be kept in circulation through various industries and enterprises, so that it prospers all who are concerned in making dividends for the ostensible possessor. But they are not merely spenders of money; they are givers of it, offering large sums for public pleasures, safeguards and improvements where they know that little return is likely to be made for it, saving to their consciences. Dr. Hoagland gave in pure goodness to the causes that he loved, and they were right causes.

A few days after in the same journal appeared the following from one who had evidently been among the "faithful friends" of whom he speaks:

#### TRIBUTE TO DR. HOAGLAND.

To the Editor of the *Brooklyn Eagle*.

An earnest, modest American gentleman has gone from us in the passing away of Dr. Cornelius N. Hoagland. To few men is it given to carry the burden of large wealth with such gracious usefulness. No more loyal friendship existed anywhere than he had to give, and no more vital interest was entertained in all public concerns than he cherished. So retiring was he and unassuming that he was little known to the general public as a large benefactor, but to those who were admitted to the intimate sources of his active benevo-

lence he revealed a charity for all men and a malice toward none which will always be to those who knew and loved him a sacred recollection of his cheery companionship. He thoroughly despised all forms of moral or intellectual chicanery. He was uncompromising in his opposition to personal greed and mere self-assertion. He lived the life of a genuine lover of his kind, and few among his fellow men have left behind them in the paths of social intercourse a more fragrant memory or one likely to longer survive the rush and tumult of latter-day existence. He was always mindful of the unprosperous laborer who failed to reap a large reward, and he never plumed himself upon his own successes. Indeed, he was a very worthy member of that great human constituency which enriches our civilization by adding to it the weight of individual character. He never aspired to the paths of fame or glory, but walked his quiet way among his fellows, well contented if he could gather to himself a few faithful friends and deserve from them the unstinted confidence which all who really knew him never failed to give.

It is among the bitter experiences of our lives to drop the hand of such a man, to lose the music of his pleasant voice, to miss his cheery salutation, and to hand him back to the eternity of the past. But since such things must be it is a comfort to recall that the sky of his remembrance is unclouded, that he lived a noble, useful life, and that he furnished a shining example to all who follow him, of the best qualities which adorn true manhood.

Brooklyn, April 30, 1898.

J. A. T.

In all his associations with men Dr. Hoagland impressed himself upon them by his quiet, unobtrusive, but persuasive way, so that while he seemed to take no active part in leadership, yet without their knowing it they were in reality led by him more than they appreciated. His judgment was much sought, always respected and often followed, and it was not till his place was made vacant by death that his associates really knew how large a part he had occupied in their deliberations and affairs. This loss was expressed by all the scientific, educational, and financial institutions with which he was connected in resolutions of sorrow for the loss sustained and of sympathy for the bereaved family. Of these resolutions we will quote but a few of the many which were adopted, and first that of the Directors of the Hoagland Laboratory:

We have met in sorrow to bear loving tribute to a departed friend. Dr. Cornelius N. Hoagland is dead! Kind and gentle in manner, generous and honorable in spirit, his life-work is ended. His business career was marked with ability, a manliness of character, and a fidelity to the interests entrusted to his care that won for him the entire confidence of all who knew him.

He founded and endowed one of the most valuable institutions of modern times—a school for the study of bacteriology and for research in that department, one of the most important departments of biology. This institution will be his monument in all coming time.

Recognizing his many admirable qualities of mind and heart, we most keenly feel the loss we have suffered, and extend our warmest sympathy to the sorrowing family so sadly bereft of a loving and devoted husband and father.

The trustees of Antioch College at Yellow Springs, Ohio, adopted the following:

WHEREAS, The members of the Board of Trustees of Antioch College have learned with profound regret and sorrow of the decease of their late associate, a member of this Board, and founder of the Cornelius N. Hoagland Professorship in Physiology and Hygiene,

*Resolved*, that this Board place on record this, our humble testimonial of respect for our late associate, and of grateful recognition of his benefactions to this College, and

*Resolved*, that we tender to the family of the deceased our sincere and respectful sympathy in this hour of their great loss and bereavement.

Dr. Hoagland's contribution to medical science was appreciated by none more than by medical students, as is shown by the following:

At a meeting of the students of the Long Island College Hospital held on April 25, 1898, the following resolutions were unanimously adopted:

WHEREAS, the hand of death has removed from amongst us our friend and benefactor, Dr. Cornelius N. Hoagland, and deprived the medical fraternity, practitioners, and students alike of one whose every thought and act were for the advancement of medical science and education and the relief of the sick and helpless, and

WHEREAS, we recognize in his affiliation with the interests of the Long Island College Hospital, as member of the Board of Regents from 1886 up to the time of his death, an earnestness of purpose in the promotion of ideas for the relief and betterment of mankind, and

WHEREAS, the building and endowing in 1887 of the laboratory which bears his name has been of great value to medical science and education and will be a lasting monument to the love of mankind which characterized his life. Therefore, be it

*Resolved*, that we, the students of the Long Island College Hospital, conscious of the great debt of gratitude and respect which we, ourselves, and those who have preceded us, and those who may follow, owe his memory for the privileges which are ours by reason of his love and of his life, give this inadequate expression to our sentiments of admiration for the character of the man and respect for the memory of our benefactor, and, be it further

*Resolved*, that a copy of these resolutions be engrossed and presented to his family as a mark of the sympathy which we feel in their loss and our love and esteem for their departed one.

At a special meeting of the Board of Regents of the Long Island College Hospital the following minute was adopted:

The Board of Regents of the Long Island College Hospital desire to express the high esteem in which they held their late associate, Dr. Cornelius N. Hoagland, and their appreciation of his generosity to this institution.

Dr. Hoagland became a member of this Board May 3, 1886, and served for many years with great fidelity upon its executive committee.

He built, equipped, and endowed the Hoagland Laboratory at great cost, and devoted it to the uses of this institution, giving to its faculty and students exceptional advantages for original investigation. The results of this action have been far-reaching, and Dr. Hoagland had the happiness to live long enough to see his work valued by the whole medical profession.

Dr. Hoagland was specially interested in the Brooklyn Eye and Ear Hospital and to it he gave one of the largest contributions toward its endowment fund that it has ever received. That this was appreciated is evidenced by the following minute:

At a meeting of the Board of Directors of the Brooklyn Eye and Ear Hospital, held May 24, 1898, the following minute was unanimously adopted:

In the death of our fellow member, Dr. Cornelius N. Hoagland, the city has lost one of its most honored and useful citizens, the medical profession one distinguished in it and enthusiastic for it, many humane institutions have lost a specially efficient and liberal helper, while his church, and most of all his family, mourn for one who always bore their welfare in his heart and was never weary in lovingly promoting it.

The sense of bereavement which comes with his death is one wider and keener than is at all common, and it is felt more deeply and tenderly by those who best knew him.

Among the humane institutions of the city to which he gladly gave attention and care, with frequent timely and large pecuniary aid, the Eye and Ear Hospital has cause to remember him with profound gratitude. He fully appreciated its beneficent work and took a keen personal interest in it. His gifts of money to it have been repeated and always judicious and opportune, while he has given time and thought to its administration, taking constant, intelligent, and effective part in it. During the more than ten years of his association with this Board of Directors by his wise counsel, his courageous anticipations of the future of the Hospital, as well as by his generosity in gifts and his exemplary faithfulness in every duty committed to him, by his unflinching courtesy of manner and cordiality of spirit, he has left upon all of us who have been accustomed to meet him a delightful and an indelible impression. It is with deep gratitude that we acknowledge his effective financial and moral assistance in our work, with unfeigned sorrow that we recognize his departure from this circle which he has so long aided and adorned, and with gladness in the midst of grief that we place this minute on our permanent records.

The following resolutions were adopted by the Board of Trustees of the People's Trust Company:

In the death of Dr. Cornelius N. Hoagland the trustees of the People's Trust Company mourn the loss of one of the incorporators of the Company, and one of the most valued members of its Board.

While it was the privilege of but few of our number to know him as a personal friend, yet in his association with us there stood revealed many of

those traits that went to make up his sterling character and his enviable career.

Modest and retiring in demeanor, he was distinctly a man among men. He was of few words, yet was ready fearlessly to speak, as well as act, when occasion called; and every word and act of his rang true. He was of sound judgment, accurate of foresight, and resolute in performance. His nature was above all helpful and kindly, and he rose to fortune not upon the ruined hopes and lives of others.

Acquaintance with him quickly changed to friendship, and friendship ripened into affection. Confident of his own trustworthiness, he was generous in the trust he reposed in others, and once given it was not lightly withdrawn. Deeply interested in the success of every enterprise with which he was connected, he was willing to sacrifice his well-earned leisure in its service.

His name will long be closely identified with that of the city of his home—with its business life, its institutions, its public monuments, and its noble charities, while his benefactions, so intelligently bestowed, have raised for him a monument more enduring than bronze, to be a source of light and help for generations to come. His life was noble, his example is an inspiration, and his memory will ever be honored by us, his associates.

We desire, therefore, to place upon record as a loving tribute our unqualified admiration of his character, and to extend to the members of his family our heartfelt sympathy in their bereavement.

He rests from his labors, but his works do follow him.

JOSEPH H. RAYMOND.

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### WILLIAM HENRY BENNETT, M.D.

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Dr. Bennett, who died at his lovely home, No. 839 President street, the first day of last September, was born in Brooklyn, July 10, 1844, and spent his early childhood in Brooklyn and, at the Summit Seminary, New Jersey, he received his preliminary education. Later he began the study of medicine in the office of Prof. Wm. N. Thompson, New York City, and graduated at the University of the City of New York in 1870. During the next year he acted as Interne to the Hospital for Nervous Diseases, but owing to ill-health, he was obliged to curtail his hospital service, and began the practice of medicine in a quiet way in New York, making a specialty of diseases of the nose, throat, and lungs.

In 1874 he married Miss Alice J. Sayer of Brooklyn, and came to this city to reside, where he remained till the time of his death.

For nearly a quarter of a century Dr. Bennett was a well-known figure on the Park Slope, visiting the sick who consulted him, in season and out of season, with a fidelity and conscientious-



ness only known to those who realize, to its fullest extent, the fact that they have the lives and health of their patients committed to their keeping. Often striving to comfort and console others when he himself was racked by bodily pain and needed consolation, for he suffered for years from a malignant and incurable disease, for which he underwent two serious surgical operations, but without material relief. This was in 1896 and '97. From this until his death, he gradually failed, bearing his suffering with Christian fortitude and resignation. His declining days were often made bright and happy by expressions of good will from his grateful patients, and by the numberless little acts of love and kindness shown by them.

Dr. Bennett took a lively interest in all medical matters. While he was practising in New York he was attending physician to the Eastern Dispensary from '73 to '75, and as soon as he removed to this city he joined the Medical Society of the County of Kings, of which he was an active member from 1876 to '98. He was also a member of the Kings County Medical Association and the Brooklyn Pathological Society. To these various societies he contributed some interesting papers, bearing on his specialty, as follows:

"Dust as an Exciting Cause of Diseases of the Air Passages," 1872.

"Remarks on Climate," 1873.

"Remarks on Abnormal Conditions of Superior Air Passages, and Causes of Chronic Inflammation of these Parts," 1874.

"Dust and a Polluted Atmosphere in the Causation of Chronic Catarrh," 1892.

Surely, these are themes which interest a large number of people in this climate. These are diseases which require the best and latest medical skill to cure, and he who contributes to this result is a public benefactor and has not lived in vain.

Dr. Bennett's widow and three sons survive him.

HISTORICAL COMMITTEE.

## MISCELLANEOUS.

### THE WOMAN'S AUXILIARY TO THE BUILDING COMMITTEE OF THE MEDICAL SOCIETY OF THE COUNTY OF KINGS.

The following is a list of the officers of this organization:

President, Mrs. J. Elliott Langstaff; Vice-Presidents, Mrs. Homer L. Bartlett, Mrs. I. H. Barber, Mrs. Cornelius N. Hoagland, Mrs. John L. Zabriskie, Mrs. Alexander Hutchins, Mrs. George A. Evans, Mrs. J. W. Hamilton; Recording Secretary, Mrs. William Simmons; Assistant, Mrs. Joseph A. Kene; Corresponding Secretary, Mrs. Frank E. West; Assistant, Mrs. Sydney Allen Fox; Treasurers, Miss Alice Jewett, Mrs. H. Beeckman Delatour; Chairmen of Committees, Mrs. Homer L. Bartlett, Mrs. Havens Brewster Bayles, Mrs. Alexander Hutchins, Mrs. Frederick Cranford, Mrs. Victor A. Robertson, Mrs. Joseph H. Hunt, Mrs. William Maddren, Mrs. George Wackerhagen, Mrs. John E. Sheppard, Mrs. Wm. M. Hutchinson, Mrs. Samuel H. Olmstead, Mrs. W. B. Lane, Mrs. George A. Evans, Mrs. George R. Fowler, Mrs. W. H. B. Pratt, Mrs. D. M. Staebler, Mrs. H. P. Bender, Mrs. J. E. Cardwell, Mrs. Chas. P. Peterman, Mrs. O. A. Gordon, Mrs. Wm. Schroeder, Mrs. C. C. Henry, Mrs. Charles Olcott, Mrs. J. W. Hamilton, Mrs. Jas. W. Fleming, Mrs. Daniel Kissam, Mrs. Frank Milbury.

### GRÆCO-ROMAN FESTIVAL.

Endorsed by the Medical Society of the County of Kings, THE WOMAN'S AUXILIARY TO THE BUILDING COMMITTEE OF THE COUNTY OF KINGS, began its work in the spring of 1898, but postponed any direct effort on account of the late war. Now, however, matters have come to a crisis, and with an enrolled membership of over three hundred and fifty we seem certainly to be approaching a grand result which only needs the earnest co-operation of all the women who represent the doctors interested in the completion of the MEDICAL LIBRARY, which the Hon. Seth Low mentioned in his address at the laying of the corner-stone on November 10th, as a "public benefit," and which those who are in touch with the members of the Society know is a vital necessity.

Not only are thousands of valuable books belonging to the Society in storage, but thousands have been diverted to other libraries in Manhattan because of insufficient accommodations here. The time seems ripe to do honor to this grand old Society which has conferred blessings upon the community for the past seventy-six years, and give a tangible expression of appreciation. The corner-stone has been laid, and in it is the promise of the Auxiliary with its three hundred and odd names. Let us make sure that the capital stone is quickly and firmly placed.

By official courtesy we have been granted the privilege of occupying the magnificent Thirteenth Regiment Armory—from Monday, January 23, to Saturday, February 4th, inclusive—for a Græco-Roman Festival to Asklepias and Esculapius, the Greek and Roman gods of medicine.

The sales of everything contributed will take place from January 23d to January 31st, the rest of the time being devoted to the Græco-Roman Ball and the Olympian Games.

The Chairmen of the several departments, Press, Art and Literature, House, Sales, Candy, Oriental, Refreshment, Entertainment, Flower and Fruit, Fountain, Literary-Salad, Children's, etc., have called their Committees together and depend upon all those so notified to conscientiously attend the Committee meetings and avail themselves of the privilege of inviting ten friends to assist them in "lengthening their cords and strengthening their stakes."

The following plan of operation for the "Festival Fortnight" I feel quite sure will commend itself to you. The great "Memorial Hall," hung with gay Roman draperies from its cloistered arches, will be a Roman Mart for flowers and fruit, birds and aquariums. Passing into the huge drill hall you will find it transformed into a section of the Athenian city with the noble portico of the Parthenon in the distance, where the representatives of the men who have served the Medical Society as Presidents will have everything connected with Art and Literature for sale.

This Committee will also have charge of a valuable loan collection of paintings, engravings, and curios, on the second floor.

The other Committees will be found with their salable attractions within the peristyles and temples, which will be architecturally beautiful. The Refreshment Committee will occupy the suite of dining-rooms on another floor; and the Entertainment Committee will have amusements for the children in the afternoon, and tableaux-vivants from Mythology, Greek, and Roman history,

and poetry and song, during the evenings from January 23d to January 31st; while we can look over toward the East, through the Oriental Committee, with its glimpses of Japan, India, Turkey, Arabia, and Egypt, by means of Coffee and Tea-Gardens, Tea Houses, and Smoking-room, peopled with its interesting company of Palmists, Sooth-sayers, and Fortune-tellers.

There will be other attraction too numerous to mention.

*Monday*, January 23d, Official Night. The State and Civic dignitaries will be our guests.

*Tuesday*, January 24th, Greek Night. The Greek Consul and other foreign Consuls will visit us.

*Wednesday*, January 25th, Roman Night. The Italian Consul and other foreign Consuls will be with us.

*Thursday*, January 26th, Clerical Night. Distinguished Clergymen will be invited.

*Friday*, January 27th, Legal Night. Prominent Judges and Lawyers will be present.

*Saturday*, January 28th, afternoon, Children's Carnival will take place, and on *Saturday* evening of the same day, Medical Night, well-known Physicians and Surgeons will be our guests.

*Monday*, January 30th, Merchants' Night, we hope to have the prominent Merchants of the City of New York with us.

*Tuesday*, January 31st, Auction Night, all unsold goods will be disposed of by clever, well-known Auctioneers.

*Wednesday*, February 1st, will be a REST DAY.

*Thursday*, February 2d, the Græco-Roman Ball will take place, with Officers of the Army and Navy of the United States as our guests

*Friday* and *Saturday* will be devoted to the preparation of the floor for the Olympian Games, which will take place on *Saturday* night, February 4th, followed by a review of the Regiment.

General Stewart L. Woodford is Honorary Chairman, Francis Kennedy, M.D., Chairman; Mr. M. Shaler Allen, Treasurer, and Mr. R. Hilton Harper, Secretary.

Military organizations, Universities, Athletic Associations, and other amateurs will be invited to participate in these games, forming a brilliant ending to the Græco-Roman Festival.

The motto of the Borough of Brooklyn is, "In Unity there is Strength." Let us remember the truism and make this affair a success.

S. JOSEPHINE M. LANGSTAFF,

MRS. J. ELIOTT LANGSTAFF,

President.

19 Seventh Avenue, Brooklyn, N. Y

Telephone, 89 Prospect.

The following scale of prices has been adopted:

From January 23d to January 31st:

Season Ticket.....One Dollar

Admission Ticket.....Fifty Cents

Child's Season Ticket.....Fifty Cents

Child's Admission Ticket.....Twenty-five Cents

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Olympian Games, February 4th, admission...Fifty Cents  
(Reserved seats extra.)

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### NEW BOOKS AND BOOK NOTICES.

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*All books received by the JOURNAL are deposited permanently in the Library of the Medical Society of the County of Kings.*

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A MANUAL OF MODERN SURGERY, GENERAL AND OPERATIVE. By John Chalmers Da Costa, M.D., Clinical Professor of Surgery, Jefferson Medical College, Philadelphia. Surgeon to the Philadelphia Hospital, with 386 illustrations. W. B. Sanders, 925 Walnut St. 1898.

The above is the second edition of an already familiar work. It is a volume of 800 pages, treating of the subjects of surgery, general and operative. The opening chapters are: Bacteriology, Asepsis and Antisepsis, Repair; and following are chapters on general surgical diseases. The injuries and diseases of each organ and structure are then taken up in systematic order. Special subjects—eye, ear, nose, and throat—are omitted as belonging to the specialist. Orthopedic Surgery is very briefly treated. The practical nature of the book is seen in every chapter, the essential points on each subject being briefly and clearly presented. Designed, as it is, as a manual of surgery for student and practitioner, it fills its office well.

This edition contains many changes. Many articles have been rewritten and such additions made as recent surgical progress would demand. The closing article is on the subject of the Röntgen ray, giving its field of usefulness as based on the experience of the past few years. Injuries by electricity also receive special attention.

STEPHEN LIVINGSTON TAYLOR.

MODERN GYNECOLOGY. A Treatise on Diseases of Women, Comprising the Results of the Latest Investigations and Treatment in This Branch of Medical Science. By Charles H. Bushong, M.D., Assistant Gynecologist and Pathologist to the

Demilt Dispensary, New York; Formerly Attending Physician to the Northern Dispensary, New York. Second edition. Enlarged. Published by E. B. Treat & Company, New York.

As indicated in the introductory remarks, the work is written for the instruction of the family physician, to whom women naturally first turn when afflicted with any ailment peculiar to their sex, and upon whose skill and judgment depend largely their future welfare and happiness. It is well and compactly written, well illustrated, and calculated to give just that information needed to distinguish between the diseases the family physician is able to cope with and those for which he should call in the services of the specialist. Of especial value are the chapters on hygiene and exercise, and on the diseases appearing at the climacteric, and the advice there that every woman reaching forty or forty-five years should undergo examination in order that any malignant disease may be discovered in case such has made its appearance without producing any symptoms warning the patient of its presence.

Twice an unimportant error has crept in and may be ascribed to a lapsus calami, where the dorsal position of the patient is described as prone.

W. B. CHASE.

**MEDICAL DISEASES OF INFANCY AND CHILDHOOD.** By Dawson Williams, Physician to the East London Hospital for Children. In one 12mo. volume of 629 pages with 18 illustrations. Cloth, \$2.50, net. Lea Brothers & Co., Publishers, Philadelphia and New York.

Dr. Williams has written a book out of his own carefully used clinical opportunities. On every page it bears this stamp. It is essentially a clinical book, in distinction from a treatise. He deals with the conditions and forms of disease that are most frequently seen at the bedside in the routine of everyday practice. Omitting symptoms or only touching lightly upon diseases which present symptoms similar at all ages, he has indicated "the special incidence of disease in childhood; pointed out the peculiarities which the circumstance of child life impress upon familiar diseases; and details the treatment rendered appropriate by the nature of the disease itself and by the peculiar susceptibility of the growing organism." Another feature frequently impressed upon the reader of this book is that the relative importance of diseases varies greatly at different ages. These are points of great value, especially to the junior practitioner, before he has had sufficient experience to guide him in pediatric practice.

Attention should likewise be called to what may be styled the admirable perspective of the work; the relative amount of space or fulness of treatment of individual diseases and conditions according to their importance. This is another evidence of the source of the material entering into its composition.

The association of chorea with arthritis, pericarditis, and endocarditis is clearly pointed out, though that the larger half of the cases occur in girls, that the condition is most frequently seen at about puberty, and that "over-

pressure" at school often seem to be an important circumstance in its development, are not overlooked.

The section devoted to the nervous system deserves special mention, since the fact that susceptibility of the nervous apparatus to disease is relatively great during the period of childhood, and requires early recognition and careful study by the practitioner. Here he will find Dr. Williams a wise counselor and guide.

The illustrations, some of them from photographs, are valuable additions to the book. One cannot but regret that the publisher did not use larger type, giving a less crowded page.

**AN ATLAS OF SYPHILIS AND THE VENEREAL DISEASES.** By Professor Dr. Franz Mracek of Vienna. Translated from the German, with 71 colored plates. Published by Saunders of Philadelphia. Price, \$3.50.

In this work we have an admirable collection of colored plates (lithographs)  $4\frac{1}{2} \times 7$  inches, making a book of a size convenient for handling and yet large enough to show clearly the conditions depicted.

Each picture is drawn from life and accompanied by a short history of the case.

The correctness of the pictures, as well as their artistic excellence, is highly to be commended.

The shading off of one color into another is skilfully managed, and the soft gradations of tint such as occur in the natural skin are well shown.

The figures comprise all the common syphilitic and venereal affections, and many uncommon ones which are only to be seen in a large hospital material. The excellent quality of the work and its low price will enable every one to give the book a well-deserved place in his library.

H. H. MORTON.

**ON CARDIAC FAILURE AND ITS TREATMENT, WITH ESPECIAL REFERENCE TO THE USE OF BATHS AND EXERCISES.** By Alexander Morison, M.D., Edin., F.R.C.P. The Rebman Publishing Co., London.

We do not like the title of this book. The term failure is unscientific and uncertain as applied in this instance. When we speak of the failure of an important organ we are using a very vague term. To illustrate: What would we think of a book entitled cerebral failure, or gastric failure, or hepatic failure?

The author maintains that exhaustion of the sensitive centers lies at the bottom of deranged functions when gross lesion does not play the major rôle. We are then thrown back on that indefinite condition, neurasthenia. The progress of neurology is fast making away with the latter technical condition.

The first part of this book is taken up with the diagnosis and symptomatology of cardiac failure. We are instructed how to examine the heart as to position and action. We are instructed how to mark out minute va-

riations in size and position, with the intent of noting the effect of our treatment. The feasibility of some of the procedures is questionable. It is a very laudable attempt, however, to introduce exact work into this department. The signs in the nervous system are next discussed. Then the neuromuscular and hemic factors in cardiac disease are treated. This chapter is metaphysical; it will be found of decided interest. The treatment of the conditions described is taken up in the last part of the book. It appears from the preface that the book was written in answer to a request from the publishers for a treatise on the balneological and gymnastic treatment of heart disease. While we cannot speak too highly of the fulfilment of that part of the request, we must express some doubts about the success of the self-imposed undertaking of condensing into a few pages the great questions which the author discusses in the pages preceding.

The drug treatment, the gymnastic treatment, and the treatment by baths are taken up severally and discussed in detail. Their fitting place is well defined. The book is a valuable one.

A PRACTICAL TREATISE ON THE DISEASES OF WOMEN AND THEIR TREATMENT BY ELECTRICITY. Third edition, revised, rewritten, and greatly enlarged. By G. Betton Massey, M.D., Physician to the Gynecic Department of Howard Hospital, Philadelphia, etc. Illustrated with twelve full-page original chromolithographic plates in twelve colors, numerous full-page original half-tone plates of photographs taken from Nature, and many other engravings in the text. Royal octavo, 400 pages. Extra cloth, beveled edges, \$3.50 net. The F. A. Davis Co., Publishers, 1914-16 Cherry street, Philadelphia; 117 W. Forty-second street, New York City; 9 Lakeside Building, 218-220 S. Clark street, Chicago, Ill.

Only an enthusiast can combine the theoretical and practical so as to accomplish the best results, but being an enthusiast by no means insures such results. The author is certainly an enthusiast.

The typography, binding, and illustrating are excellent, and the author shows a literary ability of no mean order. But with this the commendation of the work as a whole must end. That electricity in gynecic therapeutics may have a limited application is not denied, but that it is applicable to all forms of pelvic disease is monstrous.

Strong currents, or any currents, should never be applied when pus is found within the pelvic cavity. The difficulty in making absolute diagnosis of this condition gives emphasis to the statement. That the Apostoli method will lessen the size of edematous fibroids is not disputed; but that electricity diminishes the fibrous structure except by disintegration is not established, and is not in keeping with the consensus of professional opinion.

It is to be regretted that such a text-book ever reaches the profession and that the gifted author was not another kind of enthusiast.

W. B. CHASE.



**THE PHYSICIAN'S VISITING-LIST FOR 1899.** Forty-eighth year of its publication. Philadelphia: P. Blakiston's Son and Company.

The importance and usefulness of visiting-lists is well known to every physician, and there is none who does not make use of one to keep his records, both for the sending out of his bills, and for subsequent legal use in the courts in case his claims are disputed. That this list has now been published for forty years would in itself be enough to substantiate its claim of usefulness; had it not met the wants of the profession it would long since have ceased to exist. It contains a calendar for 1899 and 1900, French or metric system of weights and measures, table for correcting apothecaries' weights and measures into grams, dose-table, asphyxia and apnoea, comparison of thermometers, and a new complete table for calculating the period of utero-gestation.

**THE MEDICAL NEWS VISITING-LIST FOR 1899.** Weekly (dated, for thirty patients); Monthly (undated, for 120 patients per month); Perpetual (undated, for 30 patients weekly per year), and Perpetual (undated, for 60 patients weekly per year). The first three styles contain 32 pages of data and 160 pages of blanks. The 60-patient perpetual consists of 256 pages of blanks. Each style in one wallet-shaped book, with pocket, pencil, and rubber. Seal-grain leather, \$1.25. Thumb-letter index, 25 cents extra. Philadelphia and New York: Lea Brothers and Co.

This well-known visiting-list contains everything that the physician needs to make his records complete. If we are not mistaken, it is only such an original record as this which the courts will allow as evidence in a suit for the recovery of the well-earned compensation of the physician. It is, therefore, exceedingly important that the record should be clear and explicit as to the services performed, and when they were recorded. Fortunately, it is not often that the physician goes to law, but when he does he often loses his case because of careless or neglected entries. This visiting-list, properly filled out and preserved, would seem to be such a record as a plaintiff could rely upon to prove his claim.

The work opens with 32 pages of printed data of the most useful sort, including an alphabetical table of diseases with approved remedies, a table of doses, sections on examination of urine, artificial respiration, incompatibles, poisons and antidotes, a diagnostic table of eruptive fevers, and a full-page plate showing at a glance the incisions for ligation of the various arteries, an invaluable guide in such emergencies. The *Medical News Visiting-list* is issued in four styles, adapted to any system of records and any method of keeping professional accounts. It is printed on fine, tough paper, suitable for pen or pencil, and durably and handsomely bound in the size of a wallet for the pocket. When desired, a ready-reference thumb-letter index is furnished, which is peculiar to this List and an economizer of time.





THE HOAGLAND LABORATORY





**DR. F. E. WILSON, M.C.**

# THE BROOKLYN MEDICAL JOURNAL

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## ORIGINAL ARTICLES.

No paper published or to be published elsewhere as original will be accepted in this department.

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### LIFTING AND MANIPULATION OF THE UTERUS THROUGH THE ABDOMINAL WALL TO CONTROL POST-PARTUM HEMORRHAGE.

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### MANUAL EXTRACTION OF THE PLACENTA, THE FINGERS ENVELOPED IN MEMBRANES.

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BY ROBT. L. DICKINSON, M.D., NEW YORK,

Obstetrician, Kings County Hospital; Surgeon, Brooklyn Hospital; Instructor in Obstetrics,  
and Assistant Obstetrician, Long Island College Hospital.

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Read before the Brooklyn Gynecological Society, October 7, 1898.

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*Summary.*—To arrest bleeding, after the delivery of the placenta, a flabby uterus is seized through the relaxed abdominal wall, and lifted; its body is compressed against the lumbar spine, while the lower uterine segment and cervix are encircled firmly, with massage. The method is *only* available with lax ligaments.

For the treatment of those cases where it is difficult to induce the uterus to take on firm, complete, and persistent contraction

after the delivery of the placenta, the writer has a method to propose which he has not seen suggested heretofore. He does not refer to instances in which there exist evidences of laceration along the birth-canal or retention of fragments and clots as the cause of hemorrhage, but to bleeding from an empty uterus. This may be severe or slight. Any degree of firmness may be difficult

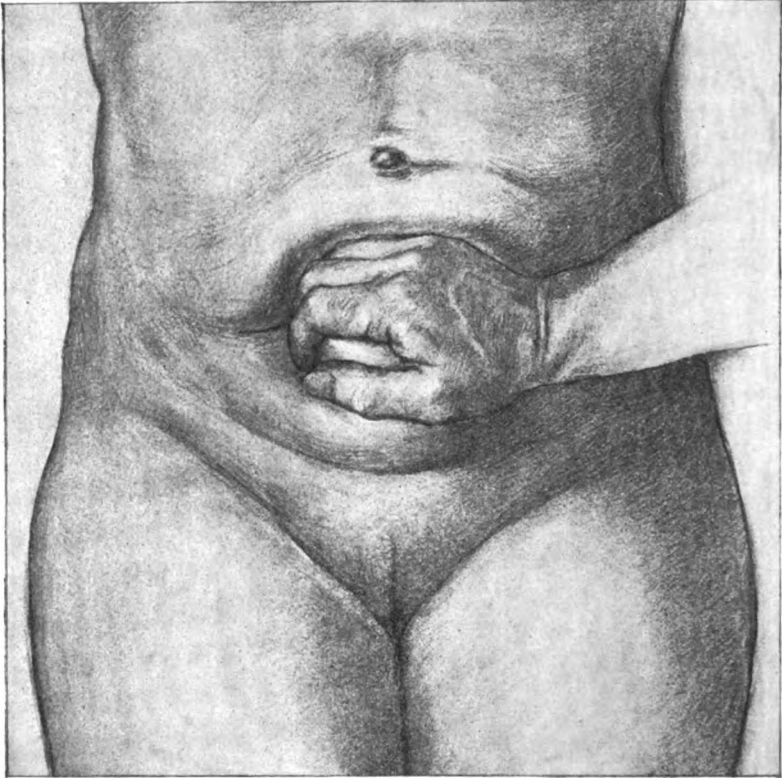


Fig. 1.—The usual seizure of the empty uterus. The hand grasps as large an area of the surface as possible by slipping the fingers down the posterior uterine wall somewhat diagonally. The flabby abdominal wall permits this.

to secure, as after long anesthesia; or during uterine contraction, there may be no flow, but it is not easy to keep up this contraction, and during this flabby interval bleeding takes place. The dose of ergot may not have had time to act; the hot water douche may not be ready yet, or when used, may produce arrest that is only temporary, and the blood-loss may be hardly sufficient in quantity to

warrant tamponing the uterine cavity. The tampon is our main reliance, our efficient last resort; but it is to be used reluctantly in dirty surroundings, in the absence of clean gauze, clean towels or linen (as we find the conditions in tenement houses) in cases that may be already infected and which should have free drainage, and particularly in the absence of a certain amount of otherwise uncontrollable hemorrhage.

Friction and compression of the uterus as it lies in the cavity of the true pelvis (Fig. 1), the fundus reaching but a short distance above the brim, is at times inefficient. The mechanical defect in this method lies in the relatively small part of its area which can



**Fig. 2.**—The emptied uterus grasped from above and crowded into the pelvic cavity. Counterpressure against bony walls is only possible on a limited surface posteriorly or laterally. The doubled-up or "squatted" uterus has a gaping cavity. Actual uterus from Barbour's frozen section. ( $\frac{1}{4}$ .)

be effectually compressed between the hands above and the inside of the pelvic cavity below. Fig 2, in which the uterus is copied from Barbour's frozen section, makes this clear. The contrast is so striking between this and Fig 4, as to seem almost incredible. Yet these proportions and the relations to the pelvis and spinal column are accurate.

It is, therefore, the practice of the writer, in all cases where it is feasible, to lift the uterus as high as possible into the abdominal cavity and there to manipulate. The elasticity of the recently stretched vagina and the flabbiness of the lower uterine segment and cervix allow the corpus to make a considerable excursion



upward, its fundus reaching nearly or quite to the dorsal vertebræ. The organ may then be seized by a hand on either side, or by one hand in front and one behind, so that pressure and friction can be comfortably applied over its entire surface. The cervix must be included in this manipulation.

The maneuver preferred by the writer, and which is particularly adapted to the important item of irritating the cervical



Fig. 3.—The entire uterus is lifted out of the pelvis by seizing it through the abdominal wall, and compressed against the spinal column. The lower hand grasps and manipulates the cervix. Lifting is only feasible where the round ligaments contract poorly.

ganglia, is as follows (Fig. 3): After pulling up the uterus by seizing the fundus through the abdominal wall, the right hand is arched (the thumb spreading away from the fingers), the ulnar border resting against the symphysis, while the finger tips and the thumb encircle the narrow and relaxed lower uterine segment and neck of the uterus as far as they may. The bowed hand

seizes and manipulates the parts it can compass; the other hand grasps the fundus and makes active friction and compression of the thick ball-shaped body of the uterus above for which the promontory and all the lumbar spine afford a surface for counter-pressure. Access is had to all parts of the uterus and, between the two hands, the control of the whole organ is very complete. At intervals of a few minutes the small melon between the hands which the upper uterine segment resembles should be crowded



Fig. 4.—The lifted uterus compressed against the promontory and lumbar spine. Anterior and posterior walls are in contact. The counterpressure is generally efficient, the uterine and ovarian arterial supply lessened by compression and traction. ( $\frac{1}{4}$  life size.)

down into the pelvis, and then lifted again. This movement squeezes out of the relaxed and baggy vagina any clots that may form there.

Throughout the larger part of its career, contractions of the uterus are more efficiently produced by irritation applied to the cervix than to any other part of the organ. Pressure on the ovaries and tubes will produce less reflex effect than that on the cervix. Acconci,<sup>1</sup> Lindblom,<sup>2</sup> and the writer<sup>3</sup> have established

<sup>1</sup> Turin, 1891; *Centrblt. für Gyn.*, No. 8, 1892.

<sup>2</sup> *Archiv f. Gyn.*, January, 1892.

<sup>3</sup> *N. Y. J. Gyn. and Obst.*, June, 1892.

the fact that in the virgin uterus, in the uterus of parous women, and in the early stages of pregnancy, massage of the cervix will produce contractions of the muscular wall more readily than manipulation applied to any other spot in the pelvis—so far as examination of the living woman can determine. It would seem, therefore, that at the end of the third stage of labor, where uterine contraction is desired, irritation applied to the cervical ganglia would be efficient in starting the machinery of muscular action.

The objection might be raised to this method that it would be liable to produce spasm in the retraction ring, bringing about what used to be picturesquely described as "the hour-glass contraction,"

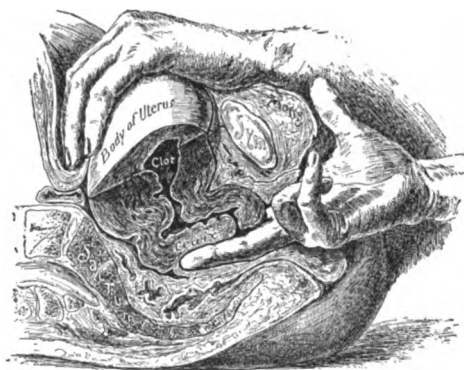


Fig. 5.—The arrest of post-partum hemorrhage by pressure above and counterpressure from within the vagina. Even this method does not afford as large an area of accessible uterine wall as the external lifted position gives. Its advantage lies in the determination of cervix lacerations, which may be the source of the bleeding.

and that clots might be locked up in the body of the uterus. The writer has not seen this happen, nor has he this fear. He has not used the method in order to empty the uterus of the placenta and membranes, because the uterus cannot be easily lifted unless empty. He believes that it is possible to exert some compression on the ovarian arteries, and especially on the uterine arteries as they pass upward close to the cervix—a cervix elongated by the up-lifting of the uterus. It is possible that there is traction on both the ovarian and uterine arteries in this high position of the uterus, so that the stretching lessens the amount of blood which may pass through them just as we see it happen in dragging up the fibroid womb in hysterectomy. *The method is not available*

*when good contraction exists*, for the round ligaments hold down the uterus in the true pelvis, but in such conditions it is not necessary.

A little over ten years ago, lifting the uterus, in combination with friction, was used by the writer in a case where the edematous anterior lip hung out of the vulva an inch or more after delivery of the placenta. He feared infection of the small abrasions and fissures, usually located on the inner aspect of this elongated and flabby section of the uterus. After firm contraction of the corpus was effected, the organ was raised and a cylindrical pad was laid across the hypogastrium. Promontory and pad between them held the uterine body up, and kept its tissues noticeably firm, while effectively drawing the cervix into its usual location.

In the lifted position the intra-uterine douche-tube slips in readily, as the doublings of the flabby canal are straightened out.

I imagine two drawbacks to the method described. Very sensitive women may resist. An obstetrician who does not occasionally crowd the uterus into the pelvis to squeeze out of the flabby vagina any clots which might collect, will not know whether a moderate concealed hemorrhage is occurring, as happens at times even with a solidly contracted uterine globe.

In Dr. Chas. Jewett's list of measures for the control of post-partum bleeding, the procedure here advocated would come in as follows:—

#### MILD CASES.

1. Manipulation of lifted uterus, instead of friction (and down-pressure on body of uterus);
2. Ergot hypodermically;
3. Hot intra-uterine douche (120°).

#### SEVERE CASES.

1. Vigorous manipulation of lifted uterus;
2. Hand in uterus, cavity cleaning, and bimanual manipulation.
3. Hot douche;
4. Tampon.

#### MANUAL EXTRACTION OF PLACENTA, THE HAND ENVELOPED IN MEMBRANES.

When the placenta is retained and time and Credé and the hot douche have failed, or for other reasons the placenta must be removed by the hand, the fingers should do their work enveloped

in the membranes whenever it is feasible. The cord is drawn tight, the edge of the membrane is seized, and the hand is lubricated. By following up the cord the entering fingers pass through the gap in the membranes. The cord is still held tense and thereby the finger-tips are guided to the middle of the placenta. This may then be seized bodily and an attempt made to remove it in a single handful, as it were. The maneuver will succeed where the placenta has been partly detached and is not completely adherent to the uterine walls. But it will not be often successful. Next, one palpates to find the edges of the placenta, and with plenty of slack in the slippery covering which envelops his hand, using the pulp of the finger-tips rather than the sharp edge of the nail, he proceeds to insinuate them by a side-to-side motion between the placenta and its site on the uterine wall. Sometimes

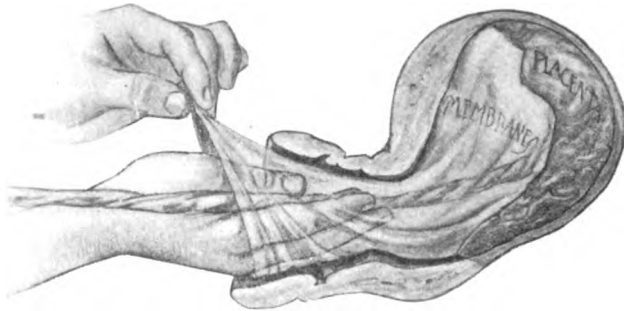


Fig. 6.—Passage of the hand within the membranes, following the cord, which has been drawn taut.

the membranes break through. Usually, however, they may be depended upon to shield the raw and ragged absorbent surface, (whence the placenta is removed) from contact, from possible infection, or from contusion and scratching by the nails of the unprotected hand.

Whenever the membranes are moderately tough and the force required is not great, the procedure is likely to succeed. Many times, however, in attempting to enter the opening through which the child came out, the membranes will give way in proportion to the progress of the hand. In other cases after the hand has entered the cavity successfully, the attempt to make use of the membranes as a rubber glove, will only end in punching through them. With a little practice, however, one learns to rotate the cone-shaped hand on its way into the rent, steadying the edge

of the opening with his other hand, and after the hand is well within, he learns how much slack to pick up to push before him as his fingers make their way between the placental edge and the uterine wall. If there is no slack taken along and an attempt is made to begin the peeling at the edge of the placenta, the membranes tear loose from that edge quite readily.

As a rule the membranes between the cervix and the lower edge of the placenta slip from their own attachment to the uterine wall to go along with the advancing fingers.

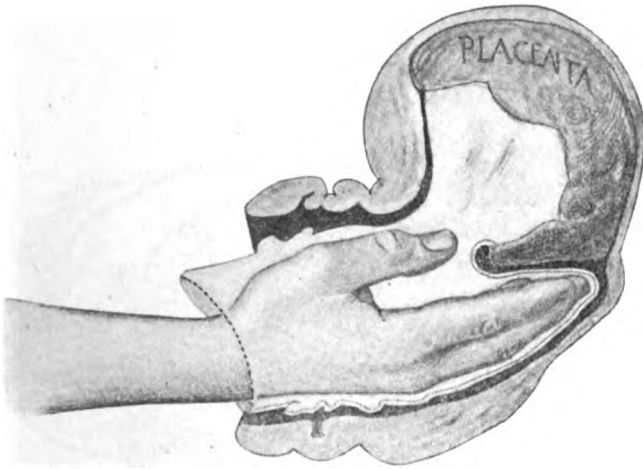


Fig. 7.—Peeling the placenta from the uterine wall, the fingers in a rift of membrane.

#### DISCUSSION.

Dr. Jewett: Drawing the uterus up out of the pelvis may help the control of hemorrhage in two ways, (1) by traction upon the uterine and ovarian arteries; (2) by exposing a larger surface to the usual friction and compression. It is familiar experience that bleeding is checked by pulling the vessels tense. The uterus is commonly drawn down for this purpose. Downward traction I would think, from the relation of the vessels, would be more effectual than upward traction.

It is possible that manipulation may act more successfully as an excitomotor when applied over the lower than the upper portion of the uterus for the reason the doctor mentions.

Two of the most reliable methods of controlling post-partum

hemorrhage (the uterine tamponade excepted) are the hot douche reinforced with the addition of ten or twenty per cent. of acetic acid, and Faradism. Either of these measures can scarcely fail to arrest the bleeding. When the Faradic current is used it must be frequently reapplied till the uterus remains permanently retracted. Care must be taken that the contractility of the muscular fiber is not impaired by too prolonged use. The electrodes



Fig. 8.—Ordinary method of stripping the placenta: the fingers of the inner hand are peeling the placenta away, beginning at its lowest point, while the upper hand makes careful counter-pressure over the thin uterine wall.

may be placed both upon the abdomen over the sides of the uterus, or one on the abdomen over the uterus and the other over the upper part of the sacrum.

With reference to the other matter, it is a distinct advantage in all intra-uterine manipulations, for the avoidance of infection, to have the membranes between the hand and the uterine wall when possible. This precaution is usually carried out in version

and is observed, if the operator is careful, in the use of the Champetier de Ribes bag. It is possible in the manual extraction of the placenta only when the placenta is detached, or nearly so, and easily removable. In adherent placenta it is often difficult enough to detach the after-birth with the fingers *outside* the mem-

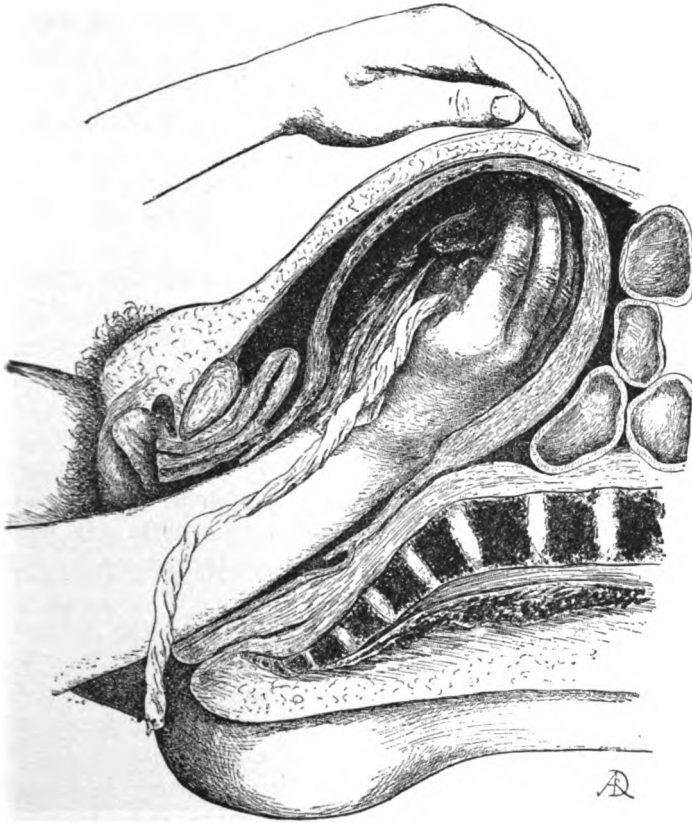


Fig. 9.—The hand goes unnecessarily far into the birth canal by beginning at the fundus. Partial separation will usually loosen the entire placenta. (Ribemont-Dessaignes.)

branes following the plane of cleavage. In dense adhesion it is sometimes difficult to be sure whether one is separating the placenta or dissecting the uterine muscles. It would obviously be quite impossible to detach the placenta in such a case with the hand on its fetal surface.

Dr. Chase: The making of such pressure upon the uterus,



either upward or downward, seems a rational method of controlling hemorrhage. I have found in my experience with miscarriages at four, five, and six months during the past few years that a douche of hot water will not always control hemorrhage.

It has been known for a long time by country practitioners, and the knowledge put into practice by them, that vinegar injected into the uterine cavity is often successful and bears out what Dr. Jewett has said with reference to dilute acetic acid. I think it could often be used to advantage because it is so easily obtained in almost any house, but would advise boiling it, for aseptic reasons.

I always want to be prepared with proper gauze for packing the uterus. A recent case demonstrated its efficacy and I believe it can be relied upon in nearly every case.

Dr. Corcoran: In connection with Dr. Chase's last remark it occurs to me that a very alarming hemorrhage could be perfectly controlled by Dr. Dickinson's method while preparations were being made for more permanent treatment, such as packing with gauze.

Dr. A. J. C. Skene: I ought to say that I appreciate the matter of the paper very much, and the value of the drawings made by Dr. Dickinson, but I really ought not to attempt to say much of anything, for I am not in a condition to express any definite opinion on the subject because it is not backed up by recent experience.

I am quite confident, however, by the little I know of the subject, that you are more likely to control hemorrhage by traction upward than by crowding or pressing of the large uterus down into the pelvic basin. In gynecological operations a small uterus that can be dragged down to the vulva will in a vast majority of cases have the bleeding arrested. Often an artery is wounded, which must be ligated before proceeding further, and one can control the hemorrhage by traction until it is convenient to seize and ligate; but I very seldom find a parturient uterus so small as to be able to crowd it down into the pelvis sufficiently to accomplish any control of bleeding.

Be assured you can get hold of a uterus and, if you are as powerful and muscular as Dr. Dickinson, you can grasp it tight enough to control hemorrhage, and if you can, that is the most easily applied method and most efficient. It is very well to speak of douche, tampon, Faradic current, and other methods, but unless the parturient woman differs from what they were when I prac-

tised obstetrics many cases will die before you can get a hot douche ready or even pack. It seems to me that one could depend upon the grasp and upward traction in the violent dangerous cases we see.

One experience in a case of placenta previa, in labor at about the eighth month, I had decided it necessary to empty the uterus in order to control bleeding, the patient being very anemic from loss of blood. The placenta was central; after detaching it I performed version and delivered quickly, but the patient was so nearly dead from the amount of blood already lost that in order to stop any further loss I carried my hand immediately up into the uterus, raising it high up in the abdomen and with the other and the aid of an assistant made counter-pressure from without and gave ergot. The uterus contracted and expelled my hand, the contractions were so violent that my hand was nearly dead when delivered, but there was no more hemorrhage.

In cases where I have had flabby uteri with little or no contraction I made it a rule not to crowd the uterus down and apply a compress from above to hold it there with a binder, but to carry up the uterus and apply the compress over the lower part of the uterus with bandage so as to hold the uterus up there on the stretch. That is one of the principles laid down by the writer, Dr. Dickinson. I don't know whether I succeeded any better by that method, but I think I did, and the patients suffered less afterwards, so I think that is one of the valuable ways of controlling hemorrhage.

Dr. Truslow: How long should one hold the uterus by the hand and what proceeding should follow such manipulation?

Dr. Dickinson: I have not had occasion to employ this method in the most extreme cases of uterine relaxation—those in which the uterus contains a quart of blood and is flabby as a wet dish-towel.

In patients with sudden and severe hemorrhage, instant cessation of the flow occurred when I grasped the uterus, slid it up, and held it firmly—as I have described the process. The fundus is usually half way between the navel and the ensiform. That is, the navel falls about the middle of the contracting body of the organ when it is thus lifted.

Even with very fat abdominal walls, the slackness of such walls, after the escape of the child, makes it very easy to find and grasp the uterus through them.

The discussion has made clear that descent of the uterus may

or may not affect the vessels thereof, according to which one of two procedures has been used. Descent by crowding down only wrinkles the vessels; but downward traction shuts them off. To push the uterus into the pelvis does not necessarily stop bleeding; to seize the cervix with volsella and drag it through the vulva, does shut off the blood-supply. Manipulation should be kept up as long as there is danger of hemorrhage.

It is not supposable that one could successfully peel off the *adherent* placenta with the hand inside the membranes, for that rare find, the truly adherent placenta, must be scratched and dug away, and as has been said, the line of cleavage is difficult to follow

## THE MANNER IN WHICH THE MASTOID BECOMES INVOLVED IN MIDDLE EAR INFLAMMATIONS.

BY J. E. SHEPPARD, M.D.

Read before the Brooklyn Pathological Society, October 13 1898.

In order to understand the development of mastoid inflammation one must have clearly in mind certain anatomical features of the middle ear.

The normal condition of affairs is such that any secretion forming in the mastoid antrum should pass from there, through the aditus, into the attic, thence to the tympanic cavity proper, and from there through the Eustachian tube into the nasopharynx, the motion of the cilia on the tubal epithelium favoring such a result. The act of swallowing normally opens the tube sufficiently to permit a small quantity of air to enter and properly ventilate the tympanic cavity.

Under abnormal conditions the tube may be forcibly opened and deleterious products, carrying with them disease germs, may be landed in the tympanic cavity or even in the mastoid antrum itself. Such conditions may, and do, result from too violent blowing of the nose, the use of the nasal douche, sea-bathing, vomiting, etc.

Again, in the abnormal conditions present in grip, head-colds, pneumonia, and the exanthemata, sepsis is also prone to extend

from the nasopharynx to the tympanum. Another important factor is the normally very narrow passageway between the tympanic cavity proper and the pathologically important attic above. The narrowness is due to the numerous folds and reduplications of mucous membrane covering the various structures, ossicles, ligaments, chorda tympani, etc., located in this portion of the cavity. With this arrangement it can be readily understood how a slight inflammatory swelling of the mucous membrane will suffice to completely shut off the mastoid antrum and attic above from the tympanic cavity and Eustachian tube below.

Again, the aditus ad antrum, the passageway from the antrum to the tympanic attic, is so narrow that any considerable swelling of the mucous membrane, particularly if enforced by the formation of any unhealthy granulation tissue, may separate these cavities, thus leaving the mastoid antrum and cells entirely cut off from any channel whereby the products of inflammation may escape. The absoluteness of the closure seems surprising when we find it has been easier for the pus to find its way through solid bone than through the swollen soft tissues. The tension of the confined pus is often enormous, sufficient at times, upon opening through the outer mastoid cortex, to cause the pent-up pus to spurt upward as much as two or three feet.

The formation of the mastoid cells is another factor in the difficulty of escape for the pus. There are two sets of cells, the *horizontal*, including the antrum, which can much more readily empty their products into the aditus than the *vertical*, which extend downward toward the mastoid apex.

The infection having extended into the vertical cells, they may be easily cut off from communication even with the antrum, thus becoming a distinctly localized mastoid abscess. When the pus does not extend beyond the antrum, and the infection is not too virulent, there is a possibility that the case may get well without opening the mastoid, through a lessening of the swelling, with a subsidence of the inflammation, especially if aided by an early free opening in the appropriate portion of the tympanic membrane for the escape of pus.

If in a given case, time be allowed for the spontaneous opening of the mastoid, this may take place through either the outer or the inner cortex; if through the outer cortex, there follows a secondary periostitis, with the external evidences of mastoid trouble; if through the inner cortex, we may have meningitis, abscess, either epidural, subdural, or in the substance of the cerebrum or cere-

bellum, or phlebitis and thrombosis of the lateral sinus. There is no special reason why, if left alone, the pus will perforate the outer rather than the inner cortex, hence it becomes plain why the external symptoms of mastoiditis should never be waited for, and why conservatism compels an early operation.

In mastoid troubles, arising from chronic middle-ear suppuration with long-standing discharge, the course of events is somewhat different. In a majority of such cases the attic is involved in the suppurative process, and in many of them the antrum as well. The ossicles, one or more, become carious, as do the surrounding bony walls of the attic and antrum—granulations and polypi spring up—in some cases the superficial epithelium of the attic and antrum takes on a desquamative process with the resultant formation of cholesteatoma—in many cases the outer mastoid cortex becomes the seat of a condensing osteitis. Any, or all, of these processes may go on indefinitely without any other symptom than the otorrhœa; but at some time or other the escape of pus from the antrum is interfered with by granulations, epithelial debris, or cholesteatoma, or the carious process reaches dangerously near the cranial cavity and obscure threatening symptoms develop which must be looked upon as grave danger-signals. Permit me to emphasize this point, since in the chronic suppurations with thickened ivory-like mastoid cortex, it would not be reasonable to expect, nor do we find, the symptoms so prominent as in the acute cases, and as a corollary, it is important in this class of cases to act, and act promptly, even in the presence of seemingly slight symptoms.

This paper would perhaps seem incomplete without a word relative to the part which microbes play in these conditions. While reported observations vary to a considerable extent, still the following would seem to be pretty well-established facts. The germs most frequently present in acute middle-ear inflammations are the streptococcus and the pneumo-diplo-coccus; in chronic suppurations we are more likely to find the staphylococcus. It seems further to be true that as a rule the most virulent infections are caused by the streptococcus.

## NOTE ON THE MODIFICATION OF COW'S MILK FOR INFANT-FEEDING.

BY HENRY A. BUNKER, M.D.

Since my first report on the modification of cow's milk by means of heat and hydrochloric acid, embodied in a paper read before The Medical Society of the County of Kings, in June 1896 (published in THE BROOKLYN MEDICAL JOURNAL, November, 1896), several cases have been reported to me and a few have come under my own observation, where infants have been wholly or partially unable to digest the milk so prepared.

Uniformly the difficulty has seemed to lie in the resistance of the casein of the milk, even after the partial hydration supposed to be brought about by the acid and heat, to the infant's digestive powers. In all such cases, the fecal evacuations were white, hard, and dry—such as so often occur on a plain sterilized milk diet. In many of these cases, these dry, scybalous masses would frequently set up mucous diarrhea and give rise to severe colicky pains.

The only evidence of partial hydration by the acid and heat, would seem to be the fact of increased nutrition in spite of these difficulties.

Professor Chittenden, *vide* "Cartwright Lectures on Digestive Proteolysis," 1894, maintains and proves, by a beautiful laboratory experiment, that "the products of gastric digestion have the power of combining with more HCl. than the original proteid, for, as soon as proteolysis commences, the products so formed, begin to show their greater affinity for acid by withdrawing acid from its combination with the native proteid, a supposition which is necessary to account for even the starting of the proteolytic process. Further, it is evident that proteoses and peptones combine with a far larger equivalent of acid than the native proteid—albumin, in the experiment—is capable of. . . . This, doubtless depends upon the cleavage of the large proteid molecule into a number of smaller or simpler molecules, each of the latter, perhaps, combining with a like number of HCl. molecules. . . . However this may be, it is evident that the products of pepsin-proteolysis combine with a larger amount of hydrochloric acid than the mother proteid, and that the transformation of the latter, at

least under the conditions of the experiment, is a slow and gradual process."

It will be remembered that the original method proposed the hydration of the milk-proteids by hydrochloric acid and a rather prolonged boiling. Twenty drops of a ten-per-cent. hydrochloric-acid solution were added to one pint of water and one quart of milk and this mixture was to be kept at boiling temperature for about twenty minutes. The addition of a larger amount of the acid, unless the milk was quite fresh, was found to result quite frequently in curdling the milk. It was also found that the acid so added, up to the point of saturation or breaking, exists as combined acid, as was evident from the failure of reagents to show free hydrochloric acid in the completed mixture.

The indications that the hydration secured by this method is not always sufficient to meet the requirements of certain infantile stomachs and the fact that usually in such cases the nutrition is increased in spite of incomplete and painful digestion, seemed so strongly confirmatory of the results of Professor Chittenden's researches, that I determined to copy, in part, his experiments on HCl. saturation, as applied to the proteids of milk.

To this end, milk was prepared in the original way, except that the twenty drops of dilute hydrochloric acid were added in a one-half, instead of one pint, watery solution and slowly but intimately mixed with one quart of milk. This mixture was brought as rapidly as possible to the boiling temperature and then set aside until another half pint of water was prepared with twenty drops more of the acid. This was added to the previously boiled milk and acid, stirred thoroughly and again brought to the boiling point.

The result thus obtained was a thoroughly palatable milk, with no taste of having been boiled and gave no indication of free hydrochloric acid with Günzberg's reagent.

Apparently there was no reason to doubt that an increased hydrolysis had been thus secured, but as yet I have made no chemical investigation to determine this point. The report of two cases herewith appended, would seem clinically, at least, to bear out the assumption.

CASE I.—Baby D., aged 11 months, referred to me by Dr. L. Grant Baldwin, October 20, 1898. Had been fed, since the first month after birth, with the various proprietary foods. Each food was abandoned as soon as it was decided that the baby was not

thriving on it, and each seemed to leave the patient in a worse condition than its predecessor.

This, I believe, was true of all the foods used, with the exception of some combination, composed mainly of condensed milk, during a part of the summer. This, also, had finally been found wanting, so that when I saw the child he had almost reached the point of complete inanition. Added to this was an almost classical scorbutic picture. There was profound anemia with marked cachexia; skin brown and wrinkled; crying most of the time with scarcely audible voice; no teeth in sight; no gingivitis. All the joints were exquisitely tender and it was very evident that the child suffered great pain from even the most careful handling; so much so that no attempt was made to get his weight. The ankle, knee, wrist, and elbow-joints were swollen, as were also the legs, hands, and feet, but there was nowhere pitting on pressure. The legs hung wholly motionless and the mother assured me that he never had had the same use of his legs as other children. There was apparently total loss of appetite, at most four ounces of the food then employed being taken in twenty-four hours. As far as ocular inspection of the fecal discharges could determine, even this was not digested, but passed as taken with the exception of some loss of watery constituent.

The treatment instituted was, for the first day, nothing but egg-water, orange-juice, and fresh beef-juice—all of which were taken and retained. On the second day, the hydrochloric-acid milk, after the old form, was given in addition and was taken eagerly.

Cachexia, pain on handling, swellings and inability to move the legs steadily and rapidly disappeared, but there was obstinate constipation. The dejecta, however, soon became normal in color and, for the first two weeks, appeared to be wholly digested. They then became dry and white, the eagerness for the meat and orange juice subsided and colicky pains began to appear after feeding.

The method of preparing the food was now changed to the double acid and double boiling. From this point on there has been uninterrupted improvement; no difficulty in digestion and very slight if any constipation. At this date, November 23rd, swellings and pain are all gone, flesh good, full and firm, color good, eyes bright, and he laughs, crows, stretches, and kicks as any healthy baby would do. The latest report, brought to me to-day, is that he has succeeded in getting his toe into his mouth.



CASE II., E. C., aged 8 months, fat but pale, irritable and evidently in more or less constant pain; vomiting and diarrhea; nates excoriated from the acrid fecal discharges. The history given was the same story of trial of all the proprietary foods, the only variation in results being that some gave rise to less distress than others. Attacks of colic were frequent and constipation varied by attacks of diarrhea was the rule. One peculiarity in this case was the intolerance to milk in any form or to any food containing cow's milk.

On account of this peculiarity, the double-acid and double-boiling method was begun at once. This was taken eagerly, was retained, and was digested without trouble. With the exception of some constipation this case is progressing in a thoroughly satisfactory manner.

While these two cases, under observation for so short a time, may scarcely be taken as establishing, clinically and beyond question, any single or disputed point, it would seem that the results obtained may certainly be taken as confirmatory of Professor Chittenden's conclusions concerning the progressive combining power of hydrochloric acid with proteids in the process of gastric digestion.

The value of such a fact is at once apparent in any scheme of artificial feeding, whether of infants or adults, or in the administration of hydrochloric acid as an aid to digestion.

This note is offered, however, simply for the purpose of directing further attention to a possible enlargement of our resources in the difficult field of infant-feeding.

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#### KANSAS MEDICAL JOURNAL.

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*The Kansas Medical Journal*, which has been published for the last ten years in Topeka, Kansas, has been discontinued, and its former editor, Dr. W. E. McVey, will have editorial control of the *Medical Monograph*, a one-hundred-and-fifty-page monthly, which will be published in the place of the *Kansas Medical Journal*.

## THE HYGIENIC AND MEDICAL CONTROL OF THE NORTH-ATLANTIC SQUADRON.

C. U. GRAVATT, M.D.,

Fleet Surgeon.

An address before the Medical Society of the County of Kings,  
October 18, 1898.

Mr. President and Gentlemen: It is indeed very gratifying to every one in the navy to find such an interest taken in naval affairs, and especially pleasing to us is the keen interest that is manifested by the medical profession in the events of the last few months.

It might be surprising to learn that the North-American fleet comprised more than one hundred vessels carrying 15,000 men, under Admiral Sampson. The scope of their work extended from Key West, as a base, around the islands of Cuba and Porto Rico. The length of the line rendered it difficult to keep in touch with all the naval stations, and hence be statistically accurate. Notwithstanding the conditions of life in a tropical summer, the vessels were kept ready for action, the men on a changeless diet, and for months the crews could not escape beyond the confines of the vessel's side; the crew of the "New York" not having been ashore for eight months. Between decks the temperature ranged from 90 to 110 degrees. Many times the men were stretched on the decks with the heat. Sometimes it became necessary to close the port-holes to keep out the hot air, and still steam was kept up constantly. But there was never a word of complaint from these men, and if you could have seen the magnificent spirit they maintained under these conditions, you would ascribe their splendid fighting record to a very large extent to the preservation of their health.

The war was declared on April 21st, and the North-Atlantic Squadron, consisting of the "New York" (flagship), the battle-ships "Indiana" and "Iowa," the monitors "Amphitrite" and "Terror," the cruisers "Detroit," "Marblehead," "Cincinnati," "Nashville," "Montgomery," and several smaller vessels left Key West early in the morning to establish a blockade of Havana, Matanzas, and other ports on the northern shore of Cuba. The

first engagement was on April 27th, at Matanzas. There are some mistaken ideas concerning this engagement. No serious movement was intended on our part, but rather to develop the strength of the enemy's batteries, and relieve the spirit of eagerness our men possessed to do something. After that the ships resumed blockading for some time.

On May 4th, the "New York," "Iowa," "Indiana," "Detroit," "Montgomery," "Amphitrite," "Terror," and several smaller boats proceeded to San Juan, Porto Rico. We arrived there at daybreak on the 12th of May, and after a breakfast of coffee and hard-tack a bombardment was begun and continued for three hours. Our firing there was very fiercely returned by the Spaniards who developed an unexpected strength. Our object was to encounter Admiral Cervera's fleet, which we thought might be in the harbor; at that time his whereabouts were unknown. We kept up the engagement for three hours, but only two shells took effect on our vessels—one on the "Iowa" and one on the "New York". The shell which struck the "Iowa" wounded three men. One was a compound comminuted fracture of the right elbow. As a part of conservative surgery the wound was dressed on board the vessel in the hope of saving some of the usefulness of the arm, but two weeks later the man was transferred to the "Solace." The surgeons of the "Solace" thought the arm might be saved, but it was amputated at the army hospital at Key West when he arrived there; no infection had taken place. On the "New York" one man was instantly killed, a fragment of a shell striking him below the left mastoid, traversing the brain and fracturing the occipital bone. Another man had a compound comminuted fracture of the left femur one and a half inches above the knee-joint, with a large gaping flesh wound. It was treated on board the vessel. Small fragments of bone were removed, the ends of the bone smoothed and wired together and the limb put up in a plaster splint. The man is now well with a useful leg, with one and a half or two inches of shortening. You must remember gentlemen that an operation on board ship cannot be done with the aseptic methods which characterize the modern operating-room. We have done several laparotomies under conditions that would certainly make you gentlemen stand aghast.

On May 11th a party from the "Marblehead" and the "Nashville" were sent to cut the cable. When within easy range of the shore, volleys were fired into them by concealed Spaniards, wounding seven of the "Marblehead's" crew and three from the "Nash-

ville." Three of these were head wounds, two of the men subsequently died. One man was shot through the liver, and another had his leg broken. This happened in the port of Cienfuegos during an attempt to cut the cable leading from that port. The other wounds were not serious.

On the same day the torpedo-boat "Winslow" was fired upon off Cardenas by a masked battery, and one officer and four men killed. Five were wounded, all of whom recovered. It was here that Ensign Bagley lost his life.

On June 13th, the "Yankee," an auxiliary cruiser, encountered a Spanish gunboat off Cienfuegos, and had one man wounded by a fragment of shell striking him on the left shoulder, fracturing the left clavicle and spine of the left scapula, and carrying away the tissues from the upper aspect of the shoulder. The result has escaped me.

On June 10th, 650 marines effected a landing at Guantanamo Bay protected by the "Marblehead." The Spaniards retired, and the hill which they had occupied was made a camp—Camp McCalla. It was about two-hundred feet high and very near the water. The camp was surrounded, except on the side of the water, by a dense undergrowth through which it was only possible to pass by trails known to the Spaniards. From the undergrowth they kept up a slow but continuous fire for several days and nights. On the 19th of June an attack was made on the Spaniards at Casco, about three miles from Camp McCalla. Including this last engagement the total number of marines killed amounted to six and there were six wounded. Assistant-Surgeon Gibbs was shot through the head and killed instantly. He was buried near the center of the camp.

Immediately after landing, the huts and houses of the Spaniards were destroyed by fire as a precaution against yellow fever, and an order on the request of myself was issued and put in operation, with the result that two and a half months later, when the army was suffering from yellow fever, typhoid fever and severe malarial fever, the marines were in better condition for active service than upon their arrival in Cuba. I shall read you the order:

"SQUADRON ORDER NO. II.

"Naval Landing Parties Shall Observe the Following Sanitary Regulations:

"1. No water shall be used for drinking or cooking purposes except after having been boiled for fifteen minutes. Cooking

utensils and dishes used to contain food should be washed in boiled water.

"2. Clothing should be as light as possible, and when wet by rain or perspiration, changed as soon as practicable. In no case should wet clothes be slept in.

"3. Do not sleep on the bare ground, or without cover.

"4. When exposed to a hot sun the men should wear some fresh green leaves inside their hats or caps.

"5. During the heat of the day only absolutely necessary work should be done.

"6. Medical Officers shall make thorough inspection daily of all parts of the Camp, and report defects or inattention of these regulations to the commanding officer.

#### "CAMPING-SITES.

"Camping-sites are to be chosen by the commanding officer after consultation with the Senior Medical Officer. Camps should be pitched on dry, elevated land, remote from, and to the windward of, marshes, with hills and trees intervening if possible. Tents should have their openings facing away from the marsh. No site is to be used as a camp or halting station that has been used for the same purpose previously, if it can be avoided. Buildings should not be used generally for quartering men. All hospitals and church buildings in Cuba are probably infected and should not be used. Private residences of the higher classes and public administration buildings are likely to be the freest from infection.

#### "WATER-SUPPLY.

"Water from the streams and wells is always suspicious and should be boiled well before using for drinking and cooking purposes, thus preventing typhoid fever and probably malaria and dysentery.

#### "FOOD.

"The food will be the regular Navy ration. Fruits which are ripe and sound, and which are skinned or cooked before eating, are not objectionable. Lime- and lemon-juice should be used freely.

#### "LATRINES.

"Latrines are to be placed to leeward and below the camp, away from the water-supply. Dry earth or sand to be scattered over the contents of the pit every morning.

## "SWEEPINGS.

"All refuse from the camp should be deposited in a chosen place and destroyed by fire, as should all enteric and dysenteric discharges. Grounds and tents to be kept thoroughly clean and inspected daily by a medical officer.

## "QUARANTINE.

"The whole camp should be virtually in a state of quarantine against the natives and persons coming from an infected district, and intercourse only allowed under special regulations made to prevent the entrance of yellow fever.

"W. T. SAMPSON, Rear-Admiral,  
"Commander-in-Chief, North-Atlantic Station."

They stayed for two months in camp observing these regulations, and at the end of that time the marine battalion was in a better state of health for active service in that climate than when they arrived there.

On the 22d of June, General Shafter's army began to land at Daiquiri and Siboney for several days under the protection of the fleet.

It was not my intention to criticize, but only as a matter of interest, I took occasion to see the Senior Medical Officer, Col. Pope, and urged him to have all the buildings and huts at this point burnt, because there was good reason to believe them infected. Owing to a lot of red tape, authority could not be gotten to do so, and the buildings were not destroyed, and the men were allowed to use the buildings, and soon after yellow fever began to develop.

As soon as the first case appeared, the commander-in-chief was requested to issue this order:

## "SQUADRON GENERAL ORDER NO. 14.

"1. In consequence of the prevalence of yellow fever among the army, especially at Siboney; no communication is to be had with that or other point occupied by the army except such as military necessity may require. Where communication can be had by signal that method is preferable. No one from an infected point, or who has had contact with the army, shall be allowed on board any vessel, except when required as above, and then due precautions against infection shall be taken. Intercourse with the

Cubans shall be reduced as far as practicable. Prisoners to be thoroughly disinfected and their clothing destroyed. In fine, non-intercourse, as complete as possible shall be observed.

"2. On shipboard opportunities for bathing and changing wet clothing are to be afforded the men, they must not sleep in wet clothing, nor in clothing worn during the day, and awnings shall be spread when the exigencies of the service allow."

The precautions against infection alluded to in this order consisted in each person who had been exposed to infection, taking a shower-bath and then a sponge-bath of bichlorid of mercury in the strength of 1-1000 upon returning to the ship. The clothing was either immersed in a bichlorid solution or else exposed to the hot sun for a few hours. I wish to say that I regard hot sunlight as one of the best disinfectants we have.

Even with communication restricted as it was, there was necessarily a good deal of exposure. Numbers of Cuban insurgents often visited the ships for consultation, and frequently numbers of them were transported from one point to another. They came from the interior generally and were not infected. Five vessels were captured that had been in the port for months with their crews, and these were disinfected and put in good sanitary conditions by Dr. Berryhill of the "New York" at a great deal of personal risk.

By that time it became necessary to establish a quarantine of Guantanamo Bay. Surgeon Wentworth of the "Marblehead" and Commander McCalla took charge of the quarantine. All vessels from Siboney and Santiago were more than inspected with vigilant care.

In response to a request for medical assistance by the army, several medical officers were sent to Siboney where they remained several days and, as may be expected, a very gratifying account reached me of the efficient service they had done there.

From the 6th to the 12th of July, Surgeon Mitchell of the Revenue-Cutter Service, took care of the army force at Daiquiri in the absence of army medical officers. There was supposed to be a good water-supply at this place. It was obtained from a spring three or four hundred feet above the sea-level, and piped to Daiquiri for the purpose of supplying vessels. It is interesting to know that the two naval vessels that suffered the most severely from malarial fever, took their water there.

Regarding malarial fever I wish to say that in no part of the world where I have been, is this disease so protean in its forms.

I learned that here it is unusual to find a typical case of malarial fever, even of the tertian variety. Nearly all the cases are irregular and atypical. They are very severe and require very large doses of quinin to effect any improvement. This is the testimony of all the medical men who have seen these cases. One of the points that is regarded as being a strong one in the diagnosis of yellow fever is the prevalence of albumen in the urine. Given two cases of fever which are thoroughly alike; one has albumen in the urine and the other has not; it is usual to consider the case with albumen to be a case of yellow fever. And yet it was not at all infrequent in malarial fever to find albumen in the urine, so that after a while we began to regard it as immaterial. I believe now that the best diagnostic sign of yellow fever is the correlation between the pulse and the temperature.

On the 3rd of July the famous naval battle took place off Santiago. There was but one man killed and one wounded on our side. The number of Spaniards killed and wounded will never be known, but from the complement of their ships, and the number of prisoners taken, it is estimated that between four or five hundred were killed or wounded. In that engagement most of the wounded Spaniards were taken on board the "Iowa" for the night, and afterward transferred to the "Solace." Surgeon Simons and Passed Assistant-Surgeon Crandall were busy all that night attending to them. In those suffering from shell wounds it was noticed by them and also on board the "Solace," that there was a lack of vitality about the external wound as though the shell-fragments were hot, preventing healing by primary union. The total killed during the war was fourteen and the total number wounded was forty-one. I notice that the Surgeon-General has placed the total number killed at seventeen and those wounded at sixty-seven. The three others I am satisfied were men who died after the action. There were but fourteen killed in the action. Of the sixty-seven wounded, nine were wounded in Manila, and others were accidental. Some of the cases were very interesting. One in which a revolver was accidentally discharged on the "New York"—the bullet entered the right lumbar region and did not emerge. The shock was very great, but before the wound of entrance had healed, recovery had taken place. Another received a bullet in the abdomen, thence it passed through the mesentery, intestines, and lung, lodging in the left axilla. A laparotomy was performed, the intestinal and mesenteric wounds closed, and the man was well within three weeks. There is a



slight emphysema of the left lung. The peculiar character of the wounds made by the modern rifle-bullet is also interesting. At close range the wound of entrance is small and clean-cut. The wound of exit is nearly always large, radiating and tumefied. In going through bone a small clean perforation is made. Wounds of the chest give but very little discomfort. There were a number of cases, where simply sealing up the external wounds was followed by recovery. The liver has been penetrated, also the abdomen, where there was good reason to believe that the intestines had been perforated, and a great number of such cases recovered without any difficulty.

One of the most important and practical lessons taught to the surgeons afloat and ashore in this war, is the very great importance of having a competent first dressing applied. Wound-infection was prevented, notwithstanding the unfavorable surroundings, and all the cases did remarkably well. Too much dressing is not considered good surgery. We were quite content to let the first dressing remain on until necessity required its removal.

As far as I can judge our total loss of strength from casualties in battle was 2.5 per cent. for the entire forces. The figures for the forces engaged in the blockade are a little less than 1 per cent.

When the ships put out for action, genito-urinary diseases disappeared from the crew.

The exact mortality from disease is not known. From May 13th to August 13th, about 330 cases were treated in the Key West hospitals.

Just what number of these were returned to duty is not known. 59 belonged to the acute infectious class, *viz.*, cachexia malarialis, 2; catarrhus epidemicus, 2; diphtheria, 1; dysentery acuta, 2; erysipelas, 3; febris intermittens, 8; febris remittens, 7; febris pneumonica, 5; morbilli, 15; rheumatism cuta, 9, and tuberculous pneumonia, 5; 26 were diseases of the nervous system, 23 of the digestive apparatus, 42 of the genito-urinary apparatus, 55 were injuries, and the rest scattering.

Soon after the fleet anchored in Guantanamo Bay a number of cases of acute intestinal disturbance began to develop. The accompanying symptoms were fever, pains in the back and limbs, a sense of great weakness, diarrhea which was persistent, nausea, vomiting, and pain over the splenic angle of the colon. The disease ran its course in five days. Similar cases occurred on all

the ships. The cause of it was soon discovered. The meats that were received on board the ships were frozen and hard to cut. For this reason they were often left on deck over night to thaw out. After being cut up and distributed to the mess-cooks it was allowed to lie in the sun for several hours before being cooked. While so exposed myriads of house-flies, which infested the ships in the harbor, had access to it. As the same meats were used during the blockade of Santiago, where the ships were free from flies, it was thought that these insects were a potent factor in causing the condition of the meat which produced the disease. The meat was quite fresh and free from odor and seemed in excellent condition. Dr. Berryhill made a microscopical examination, and reported that the tissue was filled with micro-organisms of many species. He did not make a culture owing to the lack of the necessary facilities. The conclusion arrived at was that the flies deposited a ptomain poison in the meats.

I will detain you but a moment more by relating what seems to me to be necessary to the improvement of the naval service, and you gentlemen may be able to help us in our needs, by and by, and that is the important necessity of an increased Medical Corps. It is a matter of deep concern that vessels carrying 250 men have but one medical officer, and that a number of smaller vessels with complements of from 50 to 100 men, although frequently called upon to perform detached and dangerous service, have no medical officer at all.

The small casualty-list of this war cannot be taken as a criterion for future naval engagements, and provision should be made for at least ten-per-cent. of casualties. A vessel with 250 men aboard having only one medical officer, would, if that officer were incapacitated or killed, be in a most unfortunate condition indeed, and many lives might be sacrificed as a result. Every marine ship should have a medical officer. We are exposed to injury more than others during the action, for we must relieve the men on the spot they fall. There is no time during action for operation; we simply try to save life for a time. It is impossible for us to do what should be done with so small a corps and I hope the representations made to the Surgeon-General will be of some avail. When the matter comes up it is very likely that the Medical Societies may be of considerable service to us.

I have made the following recommendations to increase the efficiency of the medical department of the navy:

1. That the corps be increased.

2. That the organization and training of the hospital force be advanced as rapidly as possible.

3. That in time of war, a most abundant supply of surgical dressings and hospital stores be provided.

4. That a sterilizer and a disinfecting-apparatus be supplied to each ship at all times.

5. That the hospital-ship service be increased and perfected.

I wish to bear testimony before the profession present here to-night of the high pride and satisfaction felt by me, as Surgeon of the Fleet, in the medical officers who comprised the staff of the fleet. They were men whom I felt sure could always be relied upon to do whatever they might be called upon to do, with zeal, energy, and self-sacrifice. They are to be congratulated upon this by the service and the profession. I have no hesitation in saying that any of the medical officers of the fleet, if in my place, would have done as well if not better than I did.

Dr. Berryhill, Passed Assistant-Surgeon, United States Navy: "Mr. President, I do not know just what to say upon this subject. I would rather get aboard a Spanish ship under fire, than attempt to speak to-night. During the whole of the war there was but little excitement. Of course, Dr. Gravatt has touched upon all the interesting points, leaving nothing of importance to be said. I would only like to state that I believe malaria is a very hard disease to cure. The ships that were in the blockade were free from malaria. The cases that did occur later on were in those men who had been ashore. I remember one little vessel that had sixty men on board, with no doctor, that reported eleven cases of sickness. They were all suffering from the prevailing form of malarial fever. I asked the captain where he was going and he said, 'To Daiquiri for water.' 'To drink?' said I, 'Of course,' said he. I was able to trace ten of the cases to the water that had been taken from Daiquiri.

"As the doctor says it is sometimes impossible to diagnose between yellow fever and malaria. There was no malaria aboard ship except among those who had gone ashore. I attribute it to the water they drank."

## BROOKLYN AS A FIELD FOR SPECIALISM.

BY VICTOR NEESEN, M.D.

Lately House-Surgeon at Professor Dr. Martin's Privat-Anstalt in Berlin; Recently House-Surgeon at the Woman's Hospital in New York; Assistant to the Chair of Gynecology at the Long Island College Hospital.

The question as to whether Brooklyn is a fit field for the practice of a specialty of medicine has, no doubt, confronted many an interne upon completing his hospital course; and it has doubtless received a deal of careful consideration from established physicians who have contemplated gradual or sudden withdrawal from general practice for the adoption of a specialty.

Whatever the process of reasoning has been, it is evident on the face of the facts, that the vast majority of those who have considered the subject, have arrived at the conclusion that the queer character of Brooklyn as a city precludes the possibility of any great success in a specialty.

This supposition is attested by the single fact that, for a city of its size, Brooklyn contains very few specialists.

When some two years ago my term of service at the Woman's Hospital expired, I was led to inquire very carefully into this matter through my very natural inclination to settle in the city of my home and birth.

As all who have tried it know, the choice of a location is a momentous task. So many things are to be considered, so many precedents of success or failure loom up for treacherous guidance that it requires the reasoning of an astute philosopher as well as the judgment of a practised business man to determine the best site. Indeed, it may be fairly said it is a matter of luck and not of judgment.

With the idea of fortifying my own judgment with the opinions of others, I consulted my friends who were eminent, and thus began a period of inquiry which has continued for two years.

It might be interesting to give, seriatim, the name and opinion of each man to whom I spoke on the subject, but the conservation of space forbids.

The first few interviews astonished me with the variance and divergence of the views expressed. As I progressed this

difference of opinion I found to be due to divergent hypotheses. Whether Brooklyn was or was not a fit field for specialistic practice could not be the common hypothesis. The consensus of opinion was agreeable when the hypothesis was put thus:

1. That Brooklyn in the past has not encouraged nor supported specialism.
2. That Brooklyn, in the present, is a dubious field for specialism.
3. That Brooklyn in the future should afford splendid opportunities for specialism.

Of course, there were dissenters to each of these statements. To the first, the usual exclamation was, "Look at Skene!" To the second, a few said, "There are now a number of comparatively young specialists in Brooklyn who seem to be doing well." To the third, a modicum of contrary opinion thought that owing to its juxtaposition to New York, Brooklyn never would develop famous specialists.

All the men interviewed backed up their statements of fact or advancement of theory with reasons. And I will attempt, as succinctly and tersely as possible, to present these reasons.

To the first portion of the hypothesis, that Brooklyn in the past has not encouraged nor supported specialism, nearly all agreed, and the reasoning was thus:

1. Brooklyn is primarily a city of homes, and these homes are filled with permanent residents of the middle class.
2. Therefore, the family physician is in demand and he flourishes.
3. When the family physician meets with a case demanding special treatment he sends it to New York because:
  - a. He regards the Brooklyn specialist as being no more skillful than himself.
  - b. If he thought otherwise he would not for a moment have his patient think so.
  - c. He lacks confidence in the honesty of the Brooklyn specialist in regard to retaining his patients. The New York specialist is too far away to retain the family if he would.
4. The Brooklyn public has been schooled, from the cradle up, in the belief that everything in Brooklyn is second-class and that if the best is desired New York is the place to obtain it.

None could explain satisfactorily how Dr. Skene attained such eminence.

Dr. Skene himself said: "If I had lived and practised in New

York, from the same amount of work I would have attained to three times the position in the profession that I enjoy to-day, or to put it another way, I would have attained to the same position with one-third the work."

On the second portion of the hypothesis, opinion was more evenly divided. One or two Brooklyn men, and most of the New York men, claimed that Brooklyn was at present a good place in which to practise a specialty. Most of the Brooklyn men held otherwise for the afore-mentioned reasons. The prevailing sentiment, said they, has not changed much. Patients are still going to New York in droves for special treatment.

But then on the other hand it is true, there are now a number of young specialists in Brooklyn who are doing well.

To the third portion of the hypothesis, I got more optimism than pessimism. "There is no reason in the world why Brooklyn should not develop and maintain great specialists" was a frequent expression. A man can become famous anywhere if he has it in him. Baltimore is a much smaller city than Brooklyn yet it boasts of Howard Kelly. Liverpool is likewise small in comparison, yet it contains Samuel Alexander.

But, say the pessimists, these cities are isolated in a territory of more or less extent, from which they draw patients. There is no city in the world so unfortunately situated as Brooklyn, overshadowed, as it is, by its big and powerful neighbor.

The answer to which is—There is work enough in Brooklyn alone to keep a few more specialists busy, if they could keep patients from drifting to New York. Then there is all Long Island to draw from, and if a man is famous, what is there to prevent patients from all over the world coming to consult him wherever he may be?

But there is a lot of work to be done in the educational line before Brooklyn can become a great medical center.

The general practitioner is to be taught that the Brooklyn specialist is equal to his New York confrère in every particular. This can be accomplished only through the exhibition of feateous work in treatment or operation.

Along with and as a consequence of the education of the general practitioner in this respect will come the enlightenment of the public, although the process will necessarily be very slow. When the laity find they can get as good work done in Brooklyn as in New York they will cease to cross a river and travel six miles more or less, to be treated specially.

The general practitioner has also to be assured through practical experience that he will not lose his families by having referred them to a Brooklyn specialist.

As to the fatiferous thought that Brooklyn never will produce great specialists owing to its juxtaposition to New York, the poser of the optimist may be rescribed "Look at Skene!" The times are assuredly more favorable now for the successful pursuit of a specialty than they have been in years gone by.

The consolidation of New York and Brooklyn does not and will not modify the physical condition of Brooklyn as a concrete and separate community:—not until the East River is filled in. Therefore, the gaining of practice and fame in a specialty will not become any easier on this account. The effect of the consolidation will be simply to rob Brooklyn of the honor of producing and maintaining specialists of great renown. For although they may reside and practise in Brooklyn they will be known as "Of New York."

To foreigners and outsiders, consolidation has made Brooklyn a part of New York, but to the inhabitants of the two cities they will always be separate and distinct.

I am reminded as I write "foreigners," of the prevalent notion of Brooklyn held by men on the other side. I will cite one instance, *exempli gratia*. While in London, I called on Mr. Herbert Spencer, gynecologist to the University Hospital, and while reading my letter of introduction he remarked, laconically: "Brooklyn? ah yes, a suburb of New York!"

Thus Brooklyn needs a good deal more fame to show the world that as a separate community she exists.

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#### NEW YORK STATE MEDICAL ASSOCIATION.

The Fifteenth Annual Meeting of the Fifth District Branch of the New York State Medical Association will be held in Brooklyn on Tuesday, May 23, 1899.

J. D. BRYANT, M.D., *President*.

E. H. SQUIBB, *Secretary*,

P. O. Box 760, Brooklyn.

# THE BROOKLYN MEDICAL JOURNAL.

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## EDITORIAL.

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### SPECIAL LEGISLATION.

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A bill has been introduced into the Legislature, making it lawful for a person who has held the rank of a commissioned officer in the capacity of a surgeon in the United States army and navy as a volunteer in the war with Spain, to practise medicine whether he be a licensed physician or not.

It is sincerely to be hoped that such a bill as this will not pass. It is, we presume, in the interest of some individual. Perhaps if his identity were established it would be found that he had previously attempted to pass the State examination and failed, and now desires to circumvent the State Board. We can hardly imagine any self-respecting physician willing to accept a license obtained in this manner.

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### DISEASE GERMS AND THE TELEPHONE.

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Much alarm has been excited by the reported discovery that the telephone acts not only as a transmitter of sound, but of contagion as well. We are told by the daily press that an expert chemist in



New York has found in the transmitters which he has examined the germs of consumption, smallpox, scarlet fever, the grip, besides other bacteria too numerous to mention. This is certainly a startling discovery, and adds another to the claims already made for the telephone, inasmuch as up to the present time bacteriologists have sought in vain by all means known to them for the germs of smallpox and scarlet fever, and yet for years they have been under their very noses, as it were, awaiting the keen eyes of this expert chemist. That telephone transmitters may become and often are filthy we have no doubt, and a proper and systematic cleansing is not only desirable but imperative, but to accomplish this we think it is hardly necessary to alarm the world at large, and announce discoveries which are so ridiculous as to cause every one at all familiar with the subject to smile aloud.

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#### "OPII PULVIS" AND "TINCTURA OPII."

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Dr. Jerome B. Thomas, Lecturer on Materia Medica at the Long Island College Hospital, has been much interested in an attempt to find out why in the above preparations of opium "Pulvis" is placed last, and "Tinctura," first, and although he has communicated with several recognized authorities on the subject he has as yet discovered no good and satisfactory reason.

One of his correspondents thinks that the makers of the Pharmacopœia need discipline in elementary Latin, and that "Opii Pulvis" may be regarded as a pharmacopœial error; he thinks that the only plausible reason is to keep parts of plants together, as *Belladonnæ radix, folia*, etc., in alphabetical relation.

Another correspondent says that the National Dispensatory has followed the custom of the United States and British Pharmacopœias in writing the official Latin names of drugs. Invariably when a part of a plant is officially recognized in the title, the Latin name of the plant written in the genitive case precedes the name of the part recognized thus: "*Aurantii Cortex*," etc., but in the case of preparations of the drug the name of the preparation precedes the name of the drug, as *extractum, tinctura*, etc. Powdered opium is not a preparation of opium but the drug itself in a powdered form, and hence "*Opii Pulvis*." In the German Pharmacopœia the part of the plant is named first, as *folia hyoscyami*,

*etc.* In prescription-writing custom directs that the part or form of the drug shall be named first, as:

℞ Pulveris opii	Scrupulum unum
Aquæ	Uncias quatuor
	<i>etc.</i>

Still another writes that no special rule was followed by the Committee of Revision and Publication of the United States Pharmacopœia in the arrangement of the Latin titles, but that custom has sanctioned the precedence of the genitive. The alphabetical arrangement is based upon the *drug name itself*, so as to bring all the forms of the drug (not the preparations, however) close together.

From a fourth correspondent, we learn that the only reason for writing *Opii Pulvis* instead of *Pulvis Opii* is the very practical one of bringing the subject of opium and powdered opium together alphabetically, inasmuch as they are merely different forms of the same thing, and the assay attached is applicable to either opium or powdered opium. There are good practical reasons for keeping all the extracts, tinctures, and fluid extracts together.

From a fifth we learn that the position of a genitive with reference to its governing noun in Latin is not subject to strict rules, but depends upon various circumstances, such as stress of meaning, harmony in construction, euphony, and rhetorical features. In ordinary prose when a genitive of a noun unaccompanied by an adjective depends upon a noun the genitive usually precedes, thus: "the son of the king," *regis filius*, equivalent to the so-called Saxon genitive in English, *viz.*: "the king's son." When the genitive is accompanied by an adjective, it depends chiefly on euphony how the words are placed; "*expulsi regis filius*," but also "*regis expulsi filius*," or "*filius expulsi regis*," though the latter is not as likely to occur. When the nominative is accompanied by an adjective, the usual position for the genitive is between the two, "*postumus regis filius*." He further says that "*Opii Pulvis*" is not only good Latin, but also proper for two other reasons: First, because it brings "*Opium*" and "*Opii Pulvis*" close together as an advantage in connection with directions for assaying; and second, because "*Pulvis*" in the Pharmacopœia is *not* used in the sense of "*in powdered form*" but to designate a specially devised and usually compound preparation; in the United States Pharmacopœia *only* compound, while "*Pulvis Digitalis*" and "*Pulvis Glycyrrhizæ*" stand for these drugs in powdered form.

Dr. Thomas has evidently opened up a rich mine of discussion

and we hope that he will keep us informed as to the result of its working. We shall be glad to hear from others who desire to take part in the discussion.

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## STATE HOSPITAL FOR THE TREATMENT OF PULMONARY TUBERCULOSIS.

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The Committee of the Senate, of which George W. Brush, M.D., of Brooklyn, was Chairman, has made a most valuable contribution to medical literature in its report to the Legislature of 1889, which has been published and copies of which can be had by application to Senator Brush.

At this time we have simply space to record the recommendations of the Committee which are: First, that the State establish a hospital, or hospitals, for the treatment of cases of tuberculosis; the same to be located somewhere in the Forest Preserve in the Adirondack Mountains, the site to be selected by the trustees provided for in the proposed bill submitted with the report.

Second, in order to supply to the public needed information concerning this disease, it is recommended that a resolution be passed by the Legislature directing the State Board of Health to prepare and issue a circular containing precise information upon the subject of tuberculosis and its prevention. Such circular is to be freely supplied to the local Boards of Health of the State for distribution.

Third, it is recommended that the present laws be so amended as to secure as far as possible the protection of food exposed for sale from dust and disease germs.

In connection with this report a bill has been introduced providing for such hospital as the Committee has recommended.

Senators Brush, Davis, and Gallagher deserve the thanks of the profession for the work they have done. We shall be glad to see this obligation recognized by the various societies of the State.

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## EXAMINATIONS BY STATE BOARDS OF MEDICAL EXAMINERS.

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The report of the University of the State of New York for 1898 shows that from 1892 to and including 1898, 3972 physicians have been examined for the license to practise in the State, and

that of this number, 922 or 23.2 per cent. were rejected. The details of these statistics are interesting, but we have space for but one item. Of the number above given 3614 were "old school" graduates, of whom 858 or 22.4 per cent. were rejected; 277 homeopathic, of whom 48 or 17.3 per cent. were rejected; and 81 eclectic, with 16 or 19.7 per cent. rejections.

What the explanation of these figures is we do not know. Is the "old school" board more strict, or do the homeopathic and eclectic colleges better prepare their students for the State examinations?

During the year 1898, 25 per cent. of the candidates were rejected in medicine, while 25 per cent. of dental and 72 per cent. of veterinary candidates were rejected.

The 1898 examination results are very remarkable. Is it possible that with an increase in preliminary requirements and a lengthening of medical courses, men are less fitted for the practice of the profession of medicine than formerly? If this is not the logical explanation, how are the statistics here given to be accounted for?

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## PROGRESS IN MEDICINE.

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### OBSTETRICS.

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BY CHAS. JEWETT, SC.D., M.D.

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#### INTERSTITIAL PREGNANCY.

Beckmann (*Zeitschr. für Geb. u. Gyn.*, B. 38, H. 3) in connection with the report of a case submits the following views of the pathology and treatment of interstitial pregnancy. He makes two varieties: (1) Tubo-uterine pregnancy, in which communication persists between the uterine cavity and the cavity of the tube in which the fruit-sac is contained. Here the gestation-sac may be exuded spontaneously into the uterine cavity. (2) Interstitial pregnancy proper, in which the ectopic sac is separated from the cavity of the uterus by a muscular partition. In the latter form the termination of the pregnancy is usually by intraperitoneal rupture, abortion being generally impossible.

The author's case was of the second variety. The woman had been in good health. The usual signs of beginning pregnancy were present together with sharp abdominal pains. Rupture oc-

curred at the beginning of the fifth month with violent internal hemorrhage. The size of the uterus did not correspond with the supposed period of gestation but no tumor could be made out in the tube. Nevertheless the case was believed to be one of ruptured tubal pregnancy. Laparotomy revealed a ruptured interstitial pregnancy. Supravaginal amputation was performed with a successful result.

The author states that interstitial pregnancy occurs more frequently on the left than on the right side, the proportion being as 17 to 7. He remarks that in true interstitial pregnancy rupture always occurs between the third and the fifth month. Usually it takes place into the peritoneum and, without interference, death follows rapidly by hemorrhage; rarely the muscular septum gives way and the fruit sac is expelled through the uterus.

With reference to treatment, the author thinks that, before rupture, in favorable conditions, an attempt may be made to extract the ovum through the uterus. The cervix is dilated and the muscular partition incised. This method of procedure is possible only when the pregnancy has not advanced beyond the third month, when the uterus is large and the partition wall thin. Always difficult, it is often dangerous.

Abdominal section is generally necessary. Either of three methods may be pursued: (1) Removal of the fetal sac and supravaginal amputation of the uterus. (2) Removal of the ovum and closure of the sac by suture. (3) Removal of the product of conception and marsupialization of the sac. Either of these operations may be carried out by the vagina but only when the gestation-sac is very small and the uterus free from adhesions.

When the operation is done by the abdominal route, the uterus should be saved if the contents of the fetal cyst are normal and the pregnancy not too far advanced. Otherwise supravaginal amputation is to be preferred.

After rupture there is no choice of procedure. Laparotomy is always demanded. If the fetal pocket is small and the laceration not too extensive it may be sutured. As a rule supravaginal amputation of the uterus is required.

#### A NEW METHOD OF INDUCING LABOR.

Perslee (*Le Semaine Médicale*, 27 Juillet, 1898) induces labor in urgent cases by the introduction of a pencil of nitrate of silver into the lower segment of the uterus. The pencil is 1 cm. in

length and 3 mm. in thickness. It is passed between the membranes and the uterine wall. Labor begins within two or three hours and goes on rapidly.

The author has used this method in two uremic cases and in two of uncontrollable vomiting of pregnancy. No bad results were noted from the use of the caustic. Perlsee thinks the method free from all danger to mother and infant.

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## DISEASES OF THE THROAT AND NOSE.

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BY WM. F. DUDLEY, M.D.

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### THE PATHOGENESIS AND EARLIER CLINICAL EVIDENCE OF LARYNGEAL TUBERCULOSIS.

W. J. Horne (*Journal of Laryngol.*, vol. xiii, No. 10). A systematic examination of the larynx in cases of suspected pulmonary tuberculosis proves that this region can furnish valuable diagnostic aid. It is unreasonable to assume that the larynx shows no evidence of departure from the normal until the condition of "laryngeal phthisis" is established.

The prevalent belief is that laryngeal tuberculosis signifies infiltration followed by ulceration, for which but little palliative and no remedial relief can be given. This restriction is "equivalent to taking up the study of consumption from the time when cavities have already formed."

Successful operations for relief of the advanced stages of the diseases have been performed by Heryng and Krause; but the author presents a result of study of the earlier stages, and endeavors to determine what changes are constant, to state their pathological basis, and their diagnostic value when the lungs give negative or indefinite signs. The larynges examined post-mortem presented none of the classical lesions of tuberculosis of the larynx, but were from the bodies of persons who had died of tuberculosis.

The frequency with which tubercle bacilli were found in the laryngeal ventricles of apparently healthy throats, is emphasized.

The first indication of disease in the laryngeal tissues, found by microscopical examination, was in the lymphatic parenchyma.

The acini and ducts were distended and finally obliterated by newly formed masses of small round cells. The periglandular tissues were unaffected. Associated with these round cells were found tubercle bacilli. The theory is advanced that the bacilli having gained entrance into the lymphatic ducts, become irritants and produce cell-proliferation. These changes were discovered in the lymphatics of the ventricles when no other laryngeal tissue was involved.

The origin of the giant cell was demonstrated by microscopic sections showing "first, tubercle bacilli in the endothelial cells forming the wall of the lymph space; second, the fusion of the adjacent and divided cells; and third, the separation of the mass as a giant cell." Since the tubercular process first invades the lymphatics, it follows that those areas richest in lymphatics should most frequently be the site of infiltration and ulceration; namely, "the interarytenoid region, the posterior third of the vocal band, the ventricular band, and the epiglottis." This is proven true by clinical experience.

Examination of the larynges of 359 consecutive cases of pulmonary tuberculosis form the basis of the following statements:

Laryngoscopic tolerance is greatest in most anemic cases.

Anemia of laryngeal mucosa was found in 157 cases.

Hyperemia occurred in 117 cases.

The disturbances of the vocal function were weakness and loss of tone, waste of effort in voice-production, sudden and temporary loss of voice, and dysphonia.

The macroscopic alterations of laryngeal form noted were "a fine crenating or fringing" of the mucous membrane of the interarytenoid space, loss of symmetry of the arytenoid eminences, narrowing of ventricular cavities due to edema of the lower surface of the ventricular bands.

This later condition, associated with enfeebled action of the compressor sacculi laryngis tends to retention of tubercle bacilli that may be forced into the ventricle by the act of coughing.

Lubrication of the vocal bands by mucus from the ventricle is thus impaired, loss of luster results and finally superficial erosions occur from lack of proper and sufficient secretion.

## OPHTHALMOLOGY.

BY JAMES W. INGALLS, M.D.

### PROTARGOL AS A SUBSTITUTE FOR NITRATE OF SILVER.

Cheney (*Boston Med. and Surg. Jour.*, August 25, 1898) says that during his recent four months' service at the Massachusetts Charitable Eye and Ear Infirmary he has used protargol in 130 cases. Apparently it possessed all the good qualities of nitrate of silver, without any of its disadvantages. The very slight degree of irritation which it causes and, in a large proportion of cases, the almost complete absence of pain are its chief points of recommendation. In cases of ophthalmia neonatorum, a four per cent. solution of protargol was used. As a prophylactic, Dr. William L. Richardson, at the Lying-in Hospital, uses a two per cent. solution of protargol instead of nitrate of silver.

### INDISCRIMINATE USE OF COCAIN.

Theobald (*Bulletin of the Johns Hopkins Hospital*) advises against the indiscriminate use of cocain in the treatment of diseases of the eye. Because of its pronounced disturbing effect upon the nutrition of the cornea, cocain is not a remedy to be used carelessly. The field of usefulness for cocain, apart from its anesthetic action, is extremely limited. "I scarcely think indeed there is any occasion to prescribe it as a remedy in eye diseases, though it may be used sometimes to increase the action of other drugs; for instance, atropia or homatropia will dilate the pupil more quickly and powerfully if combined with cocain." Histories of a number of cases are given in which evidently the condition had been made worse by continued use of cocain.

### TREATMENT OF CONVERGENT STRABISMUS.

Priestly Smith (*Ophthalmic Review*, June 19, 1898) chose as subject for the Bowman lecture, "The Etiology and Educative Treatment of Convergent Strabismus." [In the space here allotted, it is impossible to give much more than a hint of the lecture. It must be read as a whole in order to be well understood and ap-



preciated. Those who are interested in the subject would find pleasure in reading the entire original article.—I.]

"For the cure of strabismus, measures of three kinds are employed at the present day: optical, operative, and orthoptic or educative; the aim of the educative treatment being to lead the patient not merely to *direct* his eyes but to *use* them in the normal way; to teach him the forgotten art of binocular vision. . . . The average parent now knows that the child who squints is probably in need of glasses, and often expects more benefit from them than they are capable of giving. . . .

"The so-called educative treatment consists of occlusion of the good eye by shade or pad for a certain time each day, bar-reading and the use of fusion tubes. The purpose of the shade or pad is not so much to give the squinting eye a greater acuteness of vision as to compel it to use such vision as it has to promote fixation and to stop the habit of suppression."

Bar-reading (the *lecture contrôlée* of Javal) was used in a number of cases with good results. "A bar of some kind, such as a paper-knife or a strip of card, is held between the eyes and the book in such a way as to hide a part of each line from each eye respectively. When his fixing eye reaches that portion of the line which is hidden from it by the bar he must use his other eye. . . . The old idea that the squinting child needs a little skilful cutting and nothing more is dying out. Most people know that glasses are often necessary, but that the child may require *teaching*, at some trouble, to use the squinting eye, is a new idea to many. It is easily grasped, however, and *must* be grasped if our efforts are to be effective.

#### THE TREATMENT OF ENTROPION OF THE LOWER LID WITH CAUSTIC POTASH.

Theobald (*American Journal of Ophthalmology*, October, 1898) describes treatment of entropion by using caustic. Cases to which this method is particularly adapted are those of senile entropion, resulting from a relaxation of the lid tissues. Favorable results are also obtained where the entropion is due to trachoma. Care must be taken in applying the caustic crayon so that its extremity is not blunt, since it would be difficult to use it with the required degree of exactness. Before applying caustic the lids are soaked ten or fifteen minutes with a strong solution of cocain. This lessens the pain but does not entirely prevent it.

Caustic is applied so that there shall be an eschar three to four mm. wide extending the whole length of the tarsus and parallel with the lid margin. Action of caustic is not to be allowed to approach the lid margin nearer than four mm. "The crayon is drawn back and forth several times until the epidermis is destroyed and the tissues beneath begin to assume a brownish color. Holding the lid carefully so that it shall not become inverted, the action of the caustic is allowed to extend as far as it may seem desirable, when it should be arrested quickly by the application of an acid solution."

Equal parts of vinegar and water are used, or acetic acid properly diluted may be employed. All traces of the eschar disappear in a few weeks and usually it is not possible to detect that any operation has been done. The method is suited only to entropion of the lower lid.

#### CARE OF THE EYES DURING SCHOOL-LIFE.

Jackson (*Bulletin of the American Academy of Medicine*, October, 1898) read a paper before the American Academy, emphasizing the importance of careful use of the eyes during the student period. Teachers should instruct pupils not to hold books too near the eyes. Work should be intermittent, not continuous. "The teaching of a child to use its eyes is of primary importance. It ranks entirely above any particular branch or any particular plan of education. As we devote the years of childhood, and build, and print, and teach to secure the proper development of the new generation, let our building, and teaching, and planning of the school exercises be carefully considered, so that our educational product shall not in the future, as it does to-day, embrace a large proportion of ophthalmic cripples."

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#### THE HOSPITAL FOR SCARLET FEVER AND DIPHTHERIA PATIENTS.

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This hospital is located at the foot of East 16th street, Manhattan. It is a private corporation and intended for pay patients. The charges for rooms, including nursing and the services of the resident physician are thirty dollars a week. Patients may have their own physician, and mothers may accompany children.

## CORRESPONDENCE.

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### CARRON OIL AS AN INJECTION IN ACUTE AND CHRONIC GONORRHEA.

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I desire to call the attention of the medical profession to the action of a well-known mixture in cases of gonorrhea—both acute and chronic. The discovery of this action—at least to me—is new. I have never seen any reference to it in medical literature. Attention was first called to it while attending a patient for a burned hand, the patient asking, in all seriousness, after the hand had been dressed and the pain quieted, “Doctor, why would not this be good in cases of gonorrhea?” (He used the word clap.) At first I paid no attention to the remark—but later, having another case which refused to yield to treatment, I took my former patient’s advice, with the result of a speedy cure. Since that time my record shows as follows: In 27 acute cases, after a three-days’ treatment with Lafayette mixture, I have placed them on the injection of carron oil, using it four times a day, and every case was cured in from three to four days; in nine (9) cases of chronic (gleet) all were put on the injection solely, and all were cured in from seven (7) to nine (9) days.

Of course, I prohibit the use of all liquors (especially malt), save in those cases where it is impossible to restrain the patient, then I allow a small portion of gin. The solution should be fresh and kept in a cool place, for the oil becoming rancid might prove an irritant.

W. E. WAMSLEY, M.D.

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### MEDICAL SOCIETY OF THE COUNTY OF KINGS.

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At the Annual Meeting of the Society the following officers were elected for 1899:

President, Joseph H. Hunt; Vice-President, E. H. Bartley; Secretary, David Myerle; Associate Secretary, Robert J. Morrison; Treasurer, Chas. N. Cox; Associate Treasurer, O. A. Gordon; Librarian, Wm. Browning.

Censors: H. A. Fairbairn, Senior Censor; J. M. Van Cott, H. B. Delatour, J. E. Sheppard, W. C. Wood.

Trustees: Frank E. West, Walter B. Chase, Chas. Jewett, Calvin F. Barber, Geo. McNaughton.

## PROCEEDINGS OF SOCIETIES.

### ASSOCIATED PHYSICIANS OF LONG ISLAND.

The Regular Annual Meeting of the Associated Physicians of Long Island was held at the Union League Club, Grant Square, Brooklyn, N. Y., on Saturday, January 21, 1899, at three o'clock.

After the reading of the minutes of the Patchogue, L. I., meeting the Legal Committee made its report and recommended that the Association proceed to incorporate. With adoption of the report of the Legal Committee, together with the recommendations, the first steps were taken in the direction of Incorporation and this subject will be discussed at the next meeting of the Association.

The following names were added to the roster of membership:

A. Ross Matheson, Brooklyn, N. Y.; John D. Sullivan, Brooklyn, N. Y.; Alexander Hutchins, Brooklyn, N. Y.; John H. Benjamin, Riverhead, L. I.; A. H. Brundage, Brooklyn, N. Y.; W. H. Rankin, Brooklyn, N. Y.; J. Finley Bell, East Hampton, L. I.; W. L. Chapman, Brooklyn, N. Y.; L. F. Dunning, Brooklyn, N. Y.; J. E. Benjamin, Brooklyn, N. Y.; Morley B. Lewis, East Hampton, L. I.; W. B. Brinsmade, Brooklyn, N. Y.; C. H. Goodrich, Brooklyn, N. Y.; Addison Raynor, Riverhead, L. I.; W. G. Reynolds, Brooklyn, N. Y.; E. S. Chick, Brooklyn, N. Y.

The following officers were elected for the ensuing year:

President, L. N. Lanehart, M.D., of Hempstead; First Vice-President, J. M. Winfield, M.D., of Brooklyn; Second Vice-President, W. B. Gibson, M.D., of Huntington; Third Vice-President, J. S. Cooley, M.D., of Glen Cove; Secretary, R. J. Morrison, M.D., of Brooklyn; Treasurer, A. H. Terry, M.D., of Patchogue; Historian, Joseph H. Hunt, M.D., of Brooklyn, N. Y.

The Scientific Session comprised the presentation of a new style of Rongeur, by Dr. Blaisdell, with a description of the instrument and its advantages; the reading of a paper on "Treatment of Hip-Joint Disease" by Dr. Louis N. Lanehart, with Discussion by Doctors Bristow, Napier, and Hopkins; paper on "Laryngeal Diphtheria," by William F. Dudley, M.D., of Brooklyn, discussed by Doctors J. M. Van Cott, A. H. Ambler, A. H. Terry, A. T. Bristow, E. H. Bartley, Wm. Mad-dren, Chas. Jewett, and Geo. McNaughton; the presentation of a

paper on "A Factor in the Preparation of Patients for Laparotomy" by Geo. McNaughton, M.D., of Brooklyn, with discussion by Doctors Chas. Jewett, Alexander J. C. Skene, L. S. Pilcher, S. C. Blaisdell, and Walter B. Chase.

At the conclusion of the Executive and Scientific Sessions the members of the Association and their friends were conducted to the banquet-room where dinner was served. Dr. D. F. Lucas, the Chairman of the Entertainment Committee, acted as Toastmaster, and about seventy doctors were present at the dinner. During the course of the evening the historian, Doctor Jos. H. Hunt, gave a résumé of the work of the Association during the past year. The meeting adjourned at half-past-eleven o'clock.

R. J. MORRISON, M.D., *Secretary*.

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#### MEDICAL SOCIETY OF THE STATE OF NEW YORK.

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The Ninety-third Annual Meeting of the Medical Society of the State of New York, held at Albany, January 31st, February 1st and 2nd, was very largely attended. We were pleased to see, among the rest, twenty-five representatives from Brooklyn, five of whom read papers. We note, however, that the programme announced that ten from this borough would take part in the scientific work. Press of duty at this end of the line will explain the failure of some to appear.

This society has been justly considered the important one of the State. It ought surely to be the case with the amount of medical talent it can call on.

When we consider its object, scientific and legislative, we rightly expect that the yearly pilgrimage to its meeting from all parts of the State should equal that of the New York State University under the charge of the University Regents.

It was on Wednesday afternoon and evening that the most notable work was done, we say notable, for it was marked by real enthusiasm, the results of original research, and spirited discussion. The address of Dr. Roswell Park and that of Dr. H. R. Gaylord, who is occupied with the investigation of the nature of cancer at the N. Y. State Laboratory, were very spirited. Dr. Wm. Osler of Johns Hopkins University brought his audience to their feet by his arraignment of American carelessness in respect to water-supplies as shown in the propagation of typhoid fever.

The annual dinner under the guidance of Dr. Ward proved a success beyond anything in the social line in the Society's history. Over two hundred were present and they were rewarded by a ringing speech, a superb address, from Gov. Roosevelt, upholding the public service of the doctor. His compliment to the profession for its fearless, unselfish, and untiring efforts for the public weal excited deserved applause. The speeches of Chief Justice Parker and Senator Grady, Democratic leader of the Senate, and Dr. Wm. Osler added to the spirit of the occasion. And we must not fail to make due mention of Dr. Roe's address in the Senate Chamber on the relation of science to the public health.

Dr. Willis G. Donald of Albany was elected president, and Dr. John Geim of Auburn, vice-president for the ensuing year. We note also the appointment of several prominent Brooklyn physicians on committees.

As we said in the beginning, we say again, that the State Medical Society is of great importance, civic as well as medical. We might say much as to undue haste in carrying out the programme, certainly a great drawback, but we will content ourselves at the present time with the praise that is merited.

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#### BROOKLYN GYNECOLOGICAL SOCIETY.

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*A stated meeting was held, Friday evening, Nov. 4, 1898,  
in Apollo Hall.*

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The President, Dr. Wm. H. Skene, in the Chair.

Dr. Geo. McNaughton presented a specimen of a ruptured tubal pregnancy, with the following history.

The patient from whom this specimen was taken, is a German woman, 36 years old, the mother of several children. Her last pregnancy resulted in twins, who are now three (3) years old. Her menstruation had been regular, and in all ways normal, until Oct. 11th, when it failed to appear, although due. She supposed herself pregnant. On Oct. 25th, she was taken with severe pain in the hypogastric region, but did not associate this with her supposed pregnancy. The pain continued more or less severely until Nov. 1st. At no time was there a show of blood via the vagina, nor did she show general symptoms of blood-loss, but on this date she suddenly became anemic and felt very weak and faint. I was

called to see her by Dr. Eugene Hickok, who had diagnosed tubal rupture and concealed hemorrhage.

The patient was taken to L. I. C. Hospital and operated upon Wednesday morning, Nov. 2d. She is a large woman, with a pendulous abdomen, and I do not remember having seen such a large quantity of blood in the peritoneal cavity. My hand was at once introduced and the ruptured tube brought into view and ligated. The ovary on the same side (the left) was also removed. Only a portion of the fluid blood was removed, and the quantity taken out was replaced by a saline solution. The patient was very weak; pulse 160, and temperature before the operation about  $101^{\circ}$ . The day following the operation it rose to  $102^{\circ}$  and to-day it has dropped to  $100^{\circ}$ .

I think the outlook favorable. The point of particular interest was the severe pain continuing one week without signs of hemorrhage and without any external show of blood. It is not likely that any considerable hemorrhage occurred before Nov. 1st when the anemia was marked. The removed tube showed distinctly a rupture with the fruit-sac appearing from the tube in a perfect condition.

I am inclined to think that she did not have a hemorrhage when the pain first appeared, but that the griping pain she had, was due to distention of the Fallopian tube by the growing ovum. I do not know the quantity of blood in the peritoneal cavity, but it was a large amount. The abdomen was not tense, but we must remember that the peritoneal cavity may hold a large amount of blood. There were no clots seen.

Dr. Chas. Jewett: In patients in extremis from hemorrhage, the danger of prolonged operation is no doubt greater than of leaving blood in the peritoneum. The blood, if aseptic or nearly so, is rapidly absorbed and helps to refill the vessels.

An exceedingly valuable measure in these operations is the injection of the normal salt solution, begun shortly before clamping the vessels. The intravenous injection is most prompt, but of late I have rarely used it. The retro-mammary injection is simpler and safer and has only the disadvantage of being a little slower in its operation. But this is obviated by beginning immediately before the abdomen is opened. In my hands the salt solution in these, and other hemorrhages has, I am sure, saved a good many lives.

Dr. Walter B. Chase: There is one feature of this case that is very interesting. It is a commonly accepted belief that in tubal

pregnancy a rupture of this is accompanied by a discharge of clots from the uterus. This is not invariably so, as this case demonstrates, and in my own experience many cases of tubal rupture show no signs of blood from the uterus; showing probably that the tube was closed between the point of rupture and the uterus, or if not closed, there was no regurgitation. In diagnosis of rupture in ectopic gestation we must not rely on the appearance of blood from the uterus.

As regards the question of leaving blood in the peritoneal cavity, and the question of saline solution, I agree with Dr. Jewett.

Dr. L. Grant Baldwin: Another interesting feature of this specimen will bear mention. That is, the point of rupture. In the majority of cases the rupture occurs in the outer half of the tube near the fimbriated extremity. Here it is rather close to the uterus.

I do not agree with the doctor about leaving blood in the peritoneal cavity, especially in cases of this kind, sufficient infection having occurred to make it serious and cause the temperature to rise to  $101^{\circ}$ . Personally, I believe in getting out all the clots that we can and believe that the time spent in rapidly washing them out will be time well spent. The plan which I use, is to take a large-sized rubber tube and a large funnel, and pass the tube down to the bottom of the pelvis so as to wash upward, rather than to permit anything to remain. I have seen but one case of ruptured tubal pregnancy in which the blood was as in this case.

Dr. McNaughton (in closing): The abdomen was so filled with blood that it was necessary to dip some of it out to see the anterior portion of the uterus. Exactly the same procedure was followed as suggested by Dr. Baldwin. A tube was passed to the bottom of the pelvis and from two to three quarts of saline solution run through. Careful examination disclosed no clots whatever, but if the washing had been continued for a long time and we had succeeded in getting all the fluid blood out of the cavity, we might possibly have found some. I have taken great pains to shorten the length of time spent in these operations. The longer anesthesia, it seems to me, is wrong. In special cases it may be necessary. I have often left considerable blood in the peritoneal cavity and do not recall an instance in which it has given trouble. As the patient has been having a little temperature I do not feel as comfortable about her condition as I have in other



cases but she seems to be doing very well indeed so far. The temperature was about 100° yesterday morning.\*

Dr. L. Grant Baldwin presented a specimen of

#### MULTIPLE FIBROIDS.

I present this specimen for consideration, especially when it is taken in connection with the other conditions found in the abdomen.

The patient had been in her usual health up to about four years ago. At that time she noticed some enlargement of the abdomen which appeared first in the median line; it did not get larger until about six months ago, since which time its growth has been very rapid.

Menstruation occurred at 11 years of age, with some pain, up to about five years ago. You will note that she had noticed the enlargement four years ago, and about one year prior to that her menstrual pain ceased. The flow had always been of short duration and very scant in amount. She came to me because of her inability to do her work, which was that of a domestic. She had been under care for months, but her general condition did not improve.

The abdomen was opened, and when I attempted to make out the tumor, it was found that the omentum was completely and firmly adherent to the whole anterior surface of the tumor, to the brim of the pelvis, and the superior aspect of the bladder. These adhesions were strong and well organized, with blood-vessels, some of them as large as the ordinary slate-pencils; and these large vessels required ligation in order to stop and control hemorrhage. A coil of the small intestine crossed the upper portion of the central lobe of the tumor, and in order to free it, it had to be dissected off, taking some of the fibroid tissue with it. To the left side the sigmoid flexure was similarly attached as was the head of the cecum on the right. The appendix was removed with the tumor and shows very well the character of the adhesions. Considerable blood was lost, and when the patient was taken from the table, she was in a wretched condition; pulse 160, and not good. She was given a rectal injection of one quart of normal saline solution. She rallied from the operation and I considered her doing very well and out of danger. About the middle of

\* Later, this patient left the hospital on November 22d and was in excellent condition (G. McN.)

the third day the heart's action became very rapid and weak. I immediately transfused her, supposing that she had had a hemorrhage. She was in such a condition that an intravenous injection seemed to be more urgent than opening the abdomen to find the bleeding-point. The pulse improved somewhat after the transfusion but she died two hours later. Not being permitted to open the abdomen, the diagnosis of hemorrhage could not be confirmed. On cutting the uterus open it was found to be simply studded with small fibroids underneath the mucous membrane, as well as in the wall and under the peritoneum. There was no heart lesion.

## DISCUSSION.

Dr. McNaughton: Fibroids of the uterus so large as this, and causing so many symptoms in a patient so young (24 years) are not common. A few days ago I saw a young woman, who is 21 years old, who has a fibroid quite as large, but she is not particularly inconvenienced by it. I believe now, as I have for years, that these tumors commence to grow at an earlier age than is generally supposed, they increase in size slowly at first, but more rapidly as the resistance of the muscular tissue of the uterus decreases, which must be the inevitable result as the tumor increases in size.

Dr. Baldwin: If she did not die of hemorrhage, what was the cause of death? I should like Dr. Jewett to give us his opinion as to the cause of death, as I should be very glad to know it was something other than hemorrhage. There was not any blanching of the face, no sighing respiration, nor any restlessness.

Dr. Chas. Jewett referred to a hysterectomy for fibroids performed by Dr. Keith in a girl of 17 years. The growth reached the ensiform and was very vascular. He did not think it necessary to assume that Dr. Baldwin's patient had died from hemorrhage.

Dr. Dickinson: Was there any dullness? Did the condition come on rapidly?

Dr. Baldwin: No dullness that I could make out. There were no signs during the day looking toward a failure of the heart's action. There was no loss of mental activity and nothing to indicate that the outcome would prove fatal. In closing this discussion I wish to again express my praise for the Wight clamp; it is one that can be depended upon to hold the tissues it grasps, and that too without undue pressure.

Dr. Jewett: I have used Dr. Wight's clamp in vaginal hysterectomy. The president will recall one case in which I had the honor of his presence. One clamp holds the entire ligament, and is absolutely secure against slipping. The left ligament is drawn down with a blunt hook, clamped and cut. The uterus is then brought out and the other ligament clamped. The operation is easily completed within ten minutes in simple cases. The clamp is a little more difficult to remove than when two or three are used on each side. As in all clamp operations, there is a large amount of necrotic material and a long period of fetid discharge.

Dr. Raymond: I would suggest as a matter of record, that Dr. Baldwin should give us the measurements and weight of the tumor.

The President: I would ask how long the clamp was left on in these cases?

Dr. Baldwin: Usually 48 hours. In one case I removed it after 24 hours, but I will not do it again. It was not, however, difficult to stop the flow of blood.

Dr. W. B. Chase: Regarding the question of the clamp of Dr. Wight and its application, it has been alleged in the experience of others that it is not a safe instrument to use on account of its possibility of slipping.

Dr. McNaughton: It seems to me that if properly applied it cannot slip. I see no objection to its use, and have made use of it many times, and have found it an excellent instrument for the purpose.

#### APPENDIX FROM A YOUNG GIRL.

Dr. Jewett: This specimen is presented in response to the call for material to fill the evening's program. It is an appendix from a case which presented one or two features of special interest. The patient was a girl, 12 years of age. There had been several paroxysms of intense abdominal pain with but slight rise of temperature. Tenderness was marked somewhat below the usual point, but there was no tumor. Disease of the uterine appendages it was believed could be surely excluded, though no internal examination was made, and the trouble was referred to the appendix. This conclusion, Dr. Everson, the attending physician, had already reached. The case might easily have been left to medical treatment, but mainly owing to the intensity of the pain, it was thought unsafe to delay operation. The operation was done within 36 hours after the beginning of the attack.

The appendix was fished up through an incision about one and a half inches in length and removed. The specimen has been prepared by the method of Abbe. It presents a strictural point about 2 cm. from the distal end. Lodged here was a fecal concretion. The end of the appendix is club-shaped, injected, much distended, and at one point extremely thin. The lumen at this portion was filled with blood. Perforation was evidently imminent. Since the first 24 hours the patient has been perfectly comfortable.

Dr. Dickinson: Could any definite mass be made out, or was the operation done on account of the symptoms alone?

Dr. Jewett: Solely on account of the symptoms. There was no tumor, the bowels had been opened with salines, and the patient had been troubled with vomiting.

Dr. Chase: I would call attention to the time which elapsed between attack and operation, 36 hours. It was the primary attack and it is the early operation that saves.

Dr. Jewett also reported a case in which an ovarian cyst, larger than a turkey's egg, had been removed two days before from a girl of 16 years. The other ovary was three to four times larger than normal. About three-fourths of it was removed by a wedge-shaped incision and the wound closed by suture.

ACUTE MANIA COMMENCING AT THE END OF THE FIRST WEEK  
OF PUERPERIUM.

Dr. O. A. Gordon: I will relate a case that has caused me considerable anxiety and may be of interest to members of this society.

On the fifteenth day of October I attended Mrs. G., in her first confinement. She is twenty-six years old, rather delicate, but never had any serious illness. There is no history of any mental disturbance in her family, although her mother seems to be of a neurotic temperament. Three weeks before term albumin in considerable quantity was discovered in the urine which persisted in spite of treatment.

Pregnancy was allowed to continue, as the quantity of urine was not much diminished and no symptoms of uremia were present. Her labor was natural in every way, not prolonged, and instruments were not required. There was no perineal laceration. She nursed the child for the first week, during which time there was nothing abnormal about the case. On the seventh day she developed an acute mania with delusions, requiring the presence

of two people. At times it was with great difficulty that she was prevented from leaving her bed. The temperature ranged from 100 to 102 degrees for four days, and the albumin, which had nearly disappeared, was largely increased. After a few doses of quinin the temperature reached normal, and has remained there since. Her mental condition at present is very much improved, although her people say she is not quite right. The albuminuria continues, though there are days when the quantity is quite small. Urinalysis shows: specific gravity, 1017; reaction, acid; albumin present in considerable amount; sugar absent; urea, 8 grains to the ounce. Microscopically: mucus, large squamous and round, and small round, and cuboidal epithelium, many leucocytes, a small number of red blood-corpuscles, granular epithelium and detritus, as well as a few hyaline casts. Quantity in 24 hours, 3 pints.

I quote from "American Text-book of Obstetrics": "It is estimated that one woman in four hundred confined becomes insane, the disease appearing in most cases in the first two weeks of the puerperium. Prognosis: about two-thirds of all cases recover within five or six months. Of the other third from two to ten per cent. die; the rest remain permanently insane."

Aside from the rise in temperature, which was promptly controlled by quinin, I could find no evidence of septic infection

#### DISCUSSION.

Dr. Chase: In these cases, sepsis is put down as one of the primary causes of mania. This was a normal labor and sepsis is not evidenced as a cause of the rise of temperature, even if it was above 100° F. Was there any chill?

Dr. Gordon: No.

Dr. Jewett: May I ask the doctor if there was evidence of intestinal fermentation as a possible source of auto-intoxication? Toxic conditions of this character are believed to be prominent etiological factors in puerperal insanity. Sepsis is also a well-known cause. The toxemia of pregnancy nephritis is sometimes responsible. A very important element in determining the prognosis is the family history. Heredity is an unfavorable prognostic.

Dr. Gordon: I can get no history of hereditary mental disturbance, except her mother tells me that she was sick some three years ago with what she called "nervous prostration"; just what it was I do not know.

Dr. Raymond: Is malaria ever the cause of puerperal mania?

Dr. Jewett: I do not remember to have observed it, but I have been struck with the fact that malarial poisoning is often complicated with sepsis, and sepsis is a cause. Frequently in cases in which the fever yields to quinin I have subsequently found an exudate in the pelvis. This kind of mixed infection is treated in a paper published within a few years in the *Johns Hopkins Hospital Bulletin*. Cases were cited in which the plasmodium was found in the blood and septic organisms in the uterus.

Dr. R. L. Dickinson reported a case of

CÆSARIAN SECTION FOR  $1\frac{3}{4}$  INCH TRUE CONJUGATE.

M. P., an Italian shop-girl, who thinks she is fifteen years old or "nearly sixteen,"  $48\frac{1}{2}$  inches (123 cm.) in height, standing, and 20 inches (51 cm.) from chair-seat to vertex when sitting, came into the Kings County Hospital, presumably at full term. She did not know when she was last unwell. She was anemic and had well-marked rachitic structure. The pelvic measurements were:

Crests.....25 cm. (10 inches)  
 Spines.....22 cm. ( $8\frac{3}{4}$  inches)  
 External conjugate..15.5 cm. ( $6\frac{1}{8}$  inches)  
 Diagonal conjugate.. 7 cm. ( $2\frac{3}{4}$  inches)  
 Symphysis..... 5 cm. (2 inches) and tilted backward.

By measurement directly across to the promontory above the symphysis, pushing the abdominal wall in front of the fingers, a method which was very easy in this patient, the result of a number of measurements both before and after delivery gave, 4.5 cm. ( $1\frac{3}{4}$  inches) for the true conjugate. The round ligaments converged on the front of the uterus, and a third prominent ridge was found further back.

In view of these findings, the placenta was presumed to be high in the uterus on its rear wall, but the round ligament could not be sworn to, and the diagnosis was a presumptive one. The reason for this lack of definition was shown at the operation. The ligaments were greatly attenuated and the tube and ovary, which constituted the rear line of the three, were markedly flattened.

The fundus rose 26.5 cm. ( $10\frac{2}{5}$  inches) above the symphysis. The child's head rode on the symphysis, the occiput to the right and front. The head, 12 to 14 cm. across. The pudendum was

notably small, the vagina scarcely admitting the finger. The passage was very long and almost perpendicular; the cervix small and soft.

The operation was done May 19, 1896, in a closely packed operating-room. The cervix was constricted by a rubber tube, the child and placenta were delivered and the earliest stitches in the uterus began in a little over five minutes. The ordinary Sænger procedure was carried out, the deep uterine sutures being silk and the superficial, or peritoneal sutures chromicized gut.

The recovery was uneventful. The uterus is fixed to the anterior abdominal wall by adhesions. Dr. Chas. Jewett, Dr. Duryea, Dr. Pomeroy, Dr. Harold Jewett, and the house-staff kindly gave counsel and assistance. The head diameters of the child were: biparietal, 9.4 cm. ( $3\frac{1}{8}$  inches); sub-occipito-bregmatic, 9.5 ( $3\frac{1}{8}$  inches); occipito-frontal, 11 ( $4\frac{3}{8}$  inches); occipito-mental, 12.7 (5 inches).

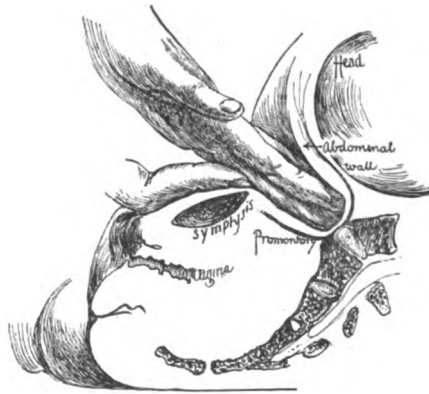


Fig. 1. Measurement of the conjugate of the inlet, by the most direct and accurate manual method adapted to relaxed abdomens or marked contractions (modified from Kelly).

Also a case of

#### FACIAL ERYSIPELAS COMPLICATING LABOR, CAUSING INFECTION OF THE BIRTH CANAL.

#### THE DOUCHE *versus* THE CURETTE.

Mrs. S., aged 26, active and well, passed through a normal first pregnancy. She was due the 26th of March, 1896. On the

11th, she had fever, aching, and cold in the head. Next morning she sent word she had the grippe. That day she fell in labor. A single vaginal examination was made at noon with all care by a trustworthy man. About six o'clock a six-pound child was born easily. The perineal injury was superficial. At this time she was snuffing and her nose was a little red. The next day, March 13th, the nose was more swollen and the inflammation was spreading to the cheeks. The axillary temperature in the evening was  $101^{\circ}$ .

The 14th, it was over  $102^{\circ}$ , the 15th, it reached  $103^{\circ}$ , with some fetor of the vaginal discharges, the erysipelas now subsiding rapidly.

A vaginal douche of sterile water was given by myself, followed by peroxid of hydrogen. The next morning the temperature had dropped to normal. That evening, the 16th, it rose to  $105^{\circ}$ . Two vaginal douches dropped it by midnight to  $102^{\circ}$ . The inference was that the infection was travelling higher, therefore, a cervical douche was given and the temperature dropped two degrees. When finally the cervical douche failed to hold the temperature down, the douche-tube was passed nearly to the fundus, and as usual, two to four ounces of  $H_2O_2$  were allowed to trickle in. The temperature dropped to normal and stayed there for eight days. On the ninth day it jumped to  $105^{\circ}$ . Four douches dropped it down to normal again. It is to be noted, therefore, that after each douche the temperature dropped distinctly, except when the infection had travelled into the cavity of the uterus; then the intra-uterine douche brought it down sharply.

The interesting point about this case is that we followed up the infection as it travelled in. We did not push beyond the infected spot, and so carry the streptococcus higher up. There was no entry made into the uterus until vaginal disinfection failed to control the temperature. There was no scraping off of Nature's protecting coat (wall), the granulation tissue.

A bacteriological examination made by Dr. Jerome Thomas after the peroxid douching had begun, showed a streptococcus, but its virulence had been impaired, for its growth was not vigorous in culture-media and a guinea-pig did not take much harm from an inoculation.

Indiscriminate curetting for rise of temperature after full term labor is not wise. If one is in doubt whether the placenta was entire, or expects to find clots, the finger should palpate the uterine cavity with all care, lest infection be carried in. Hydrogen peroxid, or the application of iodine, are likely to do more good



than the curette when no fragments are present. The sharp curette has its chief place after abortion, when sepsis within the uterus is suspected.

After labor an ordinary outline of treatment for temperature rise, where no definite cause is ascertainable, would be: catharsis, cinchonism, vaginal douching, intra-uterine douching, curetting, forced feeding, and stimulation.

Dr. Jewett: In the Cæsarian operation referred to, I remember counselling against hysterectomy. In two recent cases I have removed the uterus. Hysterectomy, I believe, should be considered in cases of absolute contraction to save the woman the risk of a second operation and in practically all cases of Cæsarian section to lessen the risk of infection. The chances for the patient should be better with hysterectomy than with the conservative Cæsarian section.

With reference to the case of erysipelas, the doctor, I think, will agree with me that one ought to be pretty sure of his ground before concluding that he successfully chased away the streptococcus with a douche-tube. I would be more disposed to believe that the pelvic infection was primarily due to some other less virulent organisms.

Dr. Chase: I must raise the question with Dr. Jewett, whether in labor at full term or after miscarriage, it is safe to assume in the absence of foul odor, a possibility of sepsis, and would like to ask Dr. Jewett to express an opinion regarding sepsis and the absence of an abnormal odor.

In a case in consultation some four or five weeks ago, I observed the following: A woman miscarried, being five months pregnant, and developed sepsis afterwards. For five or six days there was a normal temperature, some loss of blood, and then she developed a high temperature,  $105\frac{1}{2}^{\circ}$  F., which was entirely controlled in the ordinary manner. There was no apparent reason for the hyperpyrexia as evinced by local symptoms, and no presence of odor from the vagina, which had been douched once a day. No more odor than normal in a slight decomposition of the vaginal lochia. A bichlorid of mercury douche, 1-6000, followed by sterile water brought the temperature down very promptly. It was not necessary after that date to treat any return of the feverishness and she made a good recovery.

Dr. Jewett: Feter as evidence of infection is obviously misleading. It results from a class of organisms which, for a time at least, may be wholly absent in some of the most dangerous forms

of infection. Odor is often most pronounced in the least dangerous and most manageable forms of infection.

For determining whether the curette is indicated, William's rule is a good one. He explores the uterus with the finger. If the endometrium is smooth, the curetting is not called for, or is contra-indicated. If it is rough and uneven the curette should be used.

Repeated intra-uterine irrigation I have employed with a good deal of satisfaction. Peroxid of hydrogen or iodine water is a good irrigant. The statistics of Pinard are proof enough of the value of douching. It is safe, however, only under a most vigorous aseptic management and in experienced hands.

Dr. Dickinson: In the septic case, the one point of interest is the control of sepsis and high temperature. The erysipelas began before labor, and was at its height the day after labor. As the skin inflammation subsided, the vaginal discharge appeared, and the temperature shot up again, responding again and again to douching. The patient was in vigorous health, so that the vaginal secretions might be supposed to have their maximum germicidal power.

The outline of treatment in puerperal high temperature, where the cause of the pyrexia cannot yet be settled, is, with me: First, catharsis; second, cinchonism, 20 to 30 grains of quinin *within* six hours, and before the temperature has been up 24 hours, or at most, 48 hours; third, vaginal douching; fourth, intra-uterine douche, with boiled water, followed at once by slow trickling of 3ii peroxid of hydrogen; fifth, curetting. The second step settles the question of malarial poison within 24 hours wherever the expense of the blood-test puts that out of the question.

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## SEVENTH INTERNATIONAL CONGRESS AGAINST THE ABUSE OF ALCOHOLIC LIQUORS.

This congress will meet in Paris April 4 to 9, 1899.

The preliminary program gives promise of the widest discussion of this topic ever made at any one gathering. Nearly every aspect or phase of alcoholic injury and loss is treated by persons familiar and able to discuss it.

The morning sessions are to be confined to scientific studies. The topics are announced under three heads:

First, Medical Science and Hygiene; second, Political and Social Economy and Legislation, and third, Teaching, Education, and Propagation.

The President of the Congress, Dr. Le-Grain, is the Medical Director of one of the largest insane asylums of France, and an author of eminence on diseases of the brain and nervous system.

Short papers are earnestly solicited on any one phase of the subject from American workers in this field. All letters should be addressed to the American Chairman of the organization, T. D. Crothers, M.D., Hartford, Conn.

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### HISTORICAL DEPARTMENT.

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#### JOHN RUTGERT VANDERVEER, M.D.

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Dr. Vanderveer was born in Newtown, L. I., April 21, 1829 and died at Monroe, Orange County, New Jersey, September 27, 1898. His father, John Vanderveer, and his grandfather, John C. Vanderveer, were old and highly respected residents of Flatbush, and his uncle, Dr. Adrian Vanderveer, practised medicine in that ancient town for many years, and was a man of great force of character, filling a conspicuous place in the social and religious life of the town and church, and was the first physician in this county who made a specialty of gynecology.

The mother of the subject of our sketch, Gertrude Van Alt, was a descendant of another good old Dutch family who settled in an early day in Newtown, L. I.

Dr. Vanderveer married Harriet Jane Glover, who survives her husband together with four children. He received his early education at Erasmus Hall Academy, and in 1850 received the degree of B.A., and in 1853, M.A., from the University of the City of New York. He began the study of medicine with his uncle Dr. Adrian Vanderveer, and graduated as an M.D. in 1852 from the University of the City of New York. He then entered the Kings County Hospital as an Interne, under Dr. Thomas Turner, where he remained one year, and then began the practice of medicine in his native village. Here he remained until 1854 when he removed to Brooklyn and there continued his professional career until he retired from active labor, which he did in 1891, retiring to the quiet village of Monroe, where he died.

Dr. Vanderveer was an active member of the Medical Society of the County of Kings from 1874 to 1891 and filled the office of treasurer from 1879 to 1883.

He was also a member of the Kings County Medical Association and New York State Medical Association and the American Academy of Medicine.

Dr. Vanderveer was not a voluminous medical writer, though in 1877 he read a very interesting paper on "Flexions and Versions of the Non-gravid Uterus," and in 1881, another on "Post-partum Hemorrhage." He devoted himself more particularly to the treatment of female diseases, and followed, at least in a measure, the methods of his uncle, Dr. Adrian Vanderveer, which consisted largely in the use of various unguents to the uterine and vaginal surfaces. He was eminently social and domestic in his habits, and possessed in a large measure, true Dutch hospitality. He was a great reader and an industrious student of medicine and leaves behind him not only a loving family, but a large circle of mourning friends.

HISTORICAL COMMITTEE.

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DR. FRANK E. WILSON, M.C.

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Frank E. Wilson, M.D., who was elected to Congress from the Fifth District, is a well-known resident of the Twenty-eighth Ward, his home being at 1242 Bushwick avenue. Doctor Wilson was born in 1857 at Roxbury, N. Y., and is, therefore, in his forty-second year; his father was Robert F. Wilson. Dr. Wilson lived at Roxbury until he was twelve years old when his parents moved to Poughkeepsie, N. Y.; he received his preliminary education at the Poughkeepsie Military Academy. He graduated from the Jefferson Medical College of Philadelphia in 1882 and practised his profession in Dutchess County until 1889, when he removed to his present home in Brooklyn. He is a member of the Medical Society of the County of Kings and is attached to the staff of the Bushwick Hospital. He is affiliated with Ridgewood Lodge, F. & A.M., and all the bodies of the Scottish Rites and Mystic Shrine, Kismet Temple.

He was foremost in the organization of the Bushwick Council, Royal Arcanum, and assisted in the organization of Court Bushwick, Foresters of America, of which he has been since the

medical examiner. Dr. Wilson is also a member of the Bushwick Club, the Empire Democratic Club, and the Horatio Seymour Club of the Twenty-eighth Ward.

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### KINGS COUNTY HOSPITAL ALUMNI DINNER.

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The sixth annual dinner and reunion of the Alumni of this Institution took place in one of the dining-rooms of the Union League Club, on the evening of Monday, February 6th, and was an occasion of unusual interest and attracted an unusual number of physicians.

This hospital, which is the oldest in the city, was founded in 1830, and has had probably three hundred physicians connected with it as assistants, or "internes," as they are now called, who have here received their first practical lessons in the care of the sick. From here they have gone out into all parts of the world, and joined in the fight against disease and death. Representatives from this hospital are practising the healing art throughout this city and State, in New England, in the South and West, in Japan and China, and the Isles of the Sea, and in the army and navy.

And now, thanks to the present liberal management, many of the best men of the city, in the various departments of medicine, are laboring well and diligently on the Hospital Staff, to the great benefit of the internes, and the unspeakable benefit of the inmates.

This gathering was the most enthusiastic and largest in the history of the Association, and the speeches were of a high order. Dr. Jesse T. Duryea made a capital toast-master, while Mr. Andrew McLean, editor of the *Citizen*, gave the physician a high place in modern civilization, and Mr. Tunis G. Bergen presented a layman's idea of bacteriology.

But the crowning speech of the evening was made by Commissioner Simis on the relation of the taxpayer to our charitable institutions. The speech-making was preceded and followed by some rather funny impersonations, which were, however, in our humble judgment, rather *infradig* for this company of grave and reverend Seigniors.

HISTORICAL COMMITTEE.

## THE WOMAN'S AUXILIARY.

The inception of this organization was largely due to a happy conception by a doctor's wife, of an idea, that the wives, sisters, and daughters of the members of the Medical Society might, by a combined effort, do something to help in building the Medical Library, so much desired by the Society of Kings.

After the preliminary meetings, the idea finally took concrete form, and the Auxiliary became an established fact, with its various officers, committees, etc. A more zealous body of women never set themselves to accomplish any given task. Each became a missionary, and enlisted her friends, until over three thousand women with willing hands and hearts were toiling for one common cause.

The result was a foregone conclusion. Brooklyn has never before witnessed such a scene of classical architecture and feminine beauty as was nightly displayed at the 13th Regiment Armory during the Græco-Roman Festival.

The graceful white drapery of the Grecian maids, the gold embroidered ruby velvet of the matrons, the stately if more sober-hued garb of the Roman dames, the more clinging, but not less picturesque garb of the Japanese, with the gold-bespangled Syrian beauties, even the medical students transformed into Grecian and Roman warriors, who nightly paraded the City of Athens, all transported us into the East, and to the ancient times of Pericles, Aspasia, Aristotle, Cornelia, and Coriolanus, and one could not help wishing that Fashion's queen would acknowledge in these days of exaggeration and dress-deformity, the superiority in point of health and beauty of these simple costumes, which so enhanced and emphasized the lithe form of woman and the masculine beauty of man.

The selection and securing of the magnificent building, its adornment in such classic style and detail, and the subsequent execution of the elaborate program in all its details required a master hand and intelligent cooperation; and the pecuniary results have been good for Brooklyn. We say for Brooklyn—for the same magnificent effort in Manhattan would probably have resulted in five times the amount of money secured here. Indeed Brooklyn is only a large village, almost destitute of public spirit, with nothing of a public character to be proud of but the bridge and the park, and even our dear "400," who are always willing to appear in the very front of every public function, and love to see

their names blazoned in the public press as "Guests and Patrons," shrink from paying the paltry sums such distinguishment usually entails. And strangest of all, that out of the thousands of fathers, mothers, brothers, and sisters, who have been snatched from the jaws of death by the skill of Brooklyn physicians, so few have felt impelled to make a free-will offering to the Temple of Æsculapius.

Surely the poetic sentiment of the Greek, as well as the devotion of Pagan Rome, are wanting in this commercial age. When the doctor's bill is paid the account is closed.

The Woman's Auxiliary is a thing of the past; and its deeds have become a part of the society of which it was an outgrowth. On reading these pages what conclusions may we justly draw? First, that our wives and daughters have done a herculean work and poured into our coffers a sum of money which will enable us to go forward with the Library Building with hope and confidence in the future. Second, that our wives and daughters through the various meetings of the Auxiliary have become personally acquainted with each other, and thereby many lasting friendships have been formed. Third, that these various meetings have been "object-lessons" in parliamentary usages in which most women seem to be deficient.

Surely the Medical Society of the County of Kings owes these women a debt of gratitude which it can hardly repay, and their names should be emblazoned in our records as a sacred memory and as a star of hope—a beacon to encourage future generations and show them what brave hearts may do for a just cause.

HOMER L. BARTLETT,  
*Chairman Historical Committee.*

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## MISCELLANEOUS.

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### CULTURES IN DIPHTHERIA.

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The Boston Board of Health require "that two consecutive cultures shall prove negative after the disappearance of the false membrane before the case is pronounced free from danger or further isolation pronounced unnecessary."

In a paper on this subject by H. W. Hill, M.D., published in the *Journal of the Massachusetts Association of Boards of Health*, the author who has charge of the Diphtheria Diagnostic Service

of Boston, says, that nearly one case in every three officially declared non-infective would still retain the bacilli, did the Board accept a single negative culture as warranting release of the patient. This statement is based on 600 examinations. In a later series of 600 examinations, exactly 40 per cent. of those officially released by two consecutive negative cultures yielded single negative cultures followed by positive cultures during their course.

### RED CROSS SOCIETY.

Much ignorance prevails as to the origin of the society; in fact, many persons are unaware of even the name of its initiator. The honor of the first conception of such a society belongs to J. Henri Dunant, who was born at Geneva on May 8, 1828. His family had done the State service for more than two centuries. When quite a young man he devoted himself to philanthropic work among the poor of his birthplace. Deeply impressed by Miss Florence Nightingale's work in relieving the sick and wounded during the Crimean War, he was still more vividly stirred by the sufferings of the wounded at the battle of Solferino, of which he was an eye-witness, and which he described in a pamphlet entitled "Un Souvenir de Solferino." The number of wounded at this engagement reached the appalling figure of twenty-two thousand, and, the surgeons available being quite unable to attend to so great a body of men, the consequence was that *most* of them were compelled to remain for days on the field without medical care or nursing of any kind. M. Dunant described *this* terrible state of affairs in such graphic language that a thrill of horror went through the civilized world. He also demonstrated that no army medical service could be expected to stand *such* a strain on its resources as at Solferino, and suggested that *the* military medical service in all armies should be supplemented by volunteer aid societies. In furtherance of his scheme he in 1863 made a pilgrimage at his own expense through the different countries of Europe, for the purpose of enlisting the support of the sovereigns, ministers, and other great and rich persons. Finally through his efforts, in October, 1864, the historic conference was held at Geneva, from which sprung the convention and the Red Cross Society. There is a good deal of misconception with regard to the rights conferred by wearing the badge of the



Red Cross. As a matter of fact the Geneva congress declined to consider the question of independent volunteer aid societies being placed under the convention, but carefully confined its privileges to the medical services of the armies engaged. Surgeon-Col. W. F. Stevenson, of the British army, in his excellent treatise on wounds in war, defines the duties of the Red Cross Society. Very clearly he says: "The notion is far too common that the Red Cross is a civil distinction, that is a sign which may be carried by private individuals and by members of non-military societies, indicating that they are qualified to aid sick and wounded persons; and the uses to which it has been and unfortunately is being put foster this misapprehension. Civil nurses wear it; it is placed on the labels of bottles of quack medicine, and its employment is often quite apart from military medicine and surgery. All this is wrong. Persons who in this way mark themselves or their goods with the Red Cross make use of a sign to which they have no right or title, and do it in absolute ignorance of the meaning of their actions. The Red Cross is as purely a military distinctive mark as is any regimental badge worn as a part of a soldier's uniform." In a word, the Red Cross Society was intended as an adjunct to the regular-army medical establishment and was meant always to be subject to the control of the general in command.—*N. Y. Medical Record*.

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### NEW BOOKS AND BOOK NOTICES.

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*All books received by the JOURNAL are deposited permanently in the Library of the Medical Society of the County of Kings.*

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A TREATISE ON THE SCIENCE AND PRACTICE OF MIDWIFERY. By W. S. Playfair, M.D., LL.D., F.R.C.P., Emeritus Professor of Obstetric Medicine in King's College, London. Examiner in Midwifery to the Universities of Cambridge and London. Seventh American, from the ninth English, edition. In one very handsome octavo volume of 700 pages, with 207 engravings and 7 full-page plates. Cloth, \$3.75, net; leather, \$4.75, net. Lea Brothers & Co., Publishers, Philadelphia and New York.

The appearance of the ninth English—the seventh American—edition of this well-known text-book bespeaks its popularity.

The present volume differs little in its general plan and topography from the preceding edition. The text has been partially rewritten and

brought more nearly up to date. Several new illustrations have been added. A notable departure from previous American editions is the omission of the American editor's name from the title-page.

On looking over the work many points of difference appear between our own practice and teaching and that of our British cousins. Comparatively little stress, for example, is laid upon the preliminary care and observation of the patient in expectation of labor. Nothing is said with reference to the antepartum examination as practised in this country. Abdominal palpation for diagnosis is scarcely mentioned.

Early vaginal examination is enjoined for the purpose of "determining if the woman is really in labor," and no restriction is placed upon the frequency of such examinations.

Thorough asepsis is insisted upon, but no details are given. Vaginal douches are employed before and after labor, and are continued during the puerperium.

The A.C.E. mixture is commended as the best obstetric anesthetic.

Episiotomy is condemned as unnecessary, for the reason that the laceration is as clean cut as the incision and always heals as perfectly if sutured.

The pelvic floor when "torn to any extent" is restored with "one or two" interrupted sutures.

Post-partum hemorrhage is "one of the most frequent complications of delivery." Injections of the perchloride of iron are recommended. A handkerchief saturated with vinegar is introduced into the uterus.

The transfusion of blood is taught at considerable length, while the normal saline solution is disposed of in a few paragraphs.

Forceps may be disinfected "by thoroughly heating in the flame of a spirit-lamp." Application of the blades to the side of the head is regarded as impracticable.

Artificial feeding of infants is somewhat meagerly treated.

The author still believes that sewer-gas is one of the causes of puerperal sepsis and he argues somewhat at length in proof of this claim. Phlegmasia alba dolens, pelvic cellulitis, and peritonitis are treated in separate chapters, thus apparently not being included among septic diseases.

On the whole, the present edition is a vast improvement on its predecessors.

**ATLAS AND EPITOME OF OPERATIVE SURGERY.** By Dr. Otto Zuckenhandl, Privatdocent University of Vienna. Authorized translation from the German. Edited by John Chalmers DaCosta, M.D. W. B. Saunders, 925 Walnut street, 1898.

This little volume covers concisely and in convenient form the field of operative surgery. The book is especially adapted for the use of the student of operative surgery. It begins with a description of knives, their shapes and uses, ligatures and their method of application, the reunion of tissues, and methods of suturing. Next follows a chapter on ligation of the arteries. Amputations are especially clearly presented. Following this are descriptions of the various operations on different parts of the body. The technic of each operation is carefully described, the instruments required are given; also, the injuries and diseases indicating each operation. The descriptive

work is freely illustrated with colored plates and wood-cuts, which is a special feature of the book. It is easy to see that such a book, having its subjects classified for easy reference as this has, is of service to the practitioner as well as to the student. The translation is evidently free, clear and accurate description being the aim throughout.

STEPHEN LIVINGSTON TAYLOR.

**MEDICAL DIAGNOSIS.** By Oswald Vierordt, M.D., Professor of Medicine, University of Heidelberg. Authorized translation by Francis H. Stuart, A.M., M.D., of New York. Member of the Medical Society of the County of Kings, New York; Fellow of the New York Academy of Medicine; Member of the British Medical Association, etc. Fourth American, from the fifth German, edition. W. B. Saunders, Philadelphia.

The fourth edition of this now well-known and appreciated work on medical diagnosis has all the merits of the preceding editions, and the added value of very general revision.

The appearance of four editions in seven years establishes its popularity beyond question. The author states, in his preface, that "the new edition has been revised in all its parts, and altered or enlarged in many places. The most thorough revision has been made in regard to the examination of gastric digestion and the examination of the nervous system."

The chapters here mentioned have been very much improved and made more complete and practical. The general arrangement of subject remains the same throughout the book, but the author has endeavored to improve upon the treatment of them, and in most cases he has succeeded. In the review of the first American edition, in this journal, Vol. 5, p. 820, a somewhat extended discussion of the plan of the work was given.

As then stated, the method of treating symptoms and pathological findings independently of the specific diseases to which they belong, has its drawbacks and inconveniences.

This method of treatment makes the book very readable and popular, and saves much repetition, but detracts much from its value as a book of ready reference for the busy practitioner who turns to it for assistance in the diagnosis of a case in hand.

The *pictures of disease* which are so characteristic of some other works on diagnosis, and which are so helpful to the younger practitioner, are wanting. In modern works on medical diagnosis so much space must be given to microscopical and chemical methods, that to give all phases of modern medical diagnosis an equal treatment would swell the work beyond the limits of one volume.

While there is so much in the work to commend, and in view of the cordial reception it has received both in the original and in the translation so ably done by Dr. Stuart, it may not be amiss to call attention to a few minor defects. As the reviewer has not at hand the original German edition, he cannot determine in all cases whether these defects are in the original, or only in the translation.

The author, in his preface to the second edition, has given credit to a colleague for assistance in the preparation of the bacteriological part of the work. He might, with advantage, have submitted some of the chemical and physiological statements to gentlemen especially versed in these subjects. A chemical or bacteriological procedure, to be of value, should be exactly described, even to minute details. There have crept into the text a number of inaccuracies of statement and incompleteness of description of methods that are misleading. For example, on page 306 it is stated that free hydrochloric acid is found in the stomach after a meal poor in albumin only in the second hour of gastric digestion, while in a meal rich in albumin not until the fourth hour. This does not agree with the general teaching of physiologists. On the same page we find the statement that rennin converts lactalbumin into casein, the albuminate of lactalbumin.

On the next page the digestive power of hydrochloric acid-peptone is spoken of. The description of the stomach's method of disposing of the food, on this page, is so confused as to be difficult to understand. The indiscriminate use of the new term "hypacidity" for subacidity or hypacidity and hypochlorhydria seems unjustifiable.

We note the use of "hydrocarbon" for carbohydrate, "hydrocarbonate gases" for gaseous hydrocarbon, and "carbonic acid" for carbon dioxide.

On page 320 a decinormal solution is stated by the translator to be a  $\frac{1}{10}$ -per-cent. solution. On the same page the normal and decinormal hydrochloric acid solutions are somewhat mixed up, and liable to confuse the reader. The methods for the examination of the degree of digestion of starch and proteids are so incomplete as to be of no value.

The description of the method of determining the digestive power of the gastric juice fails to mention the temperature, which renders the test inapplicable. These few examples suffice to show that a little more care might have been bestowed upon descriptions of processes. The translator has apparently done his work well. He has given us few foreign idioms, a matter not easy to avoid in rendering a foreign language into English. The work, as a whole, is to be recommended, and is a credit to both the author and the translator.

The press-work is fully up to the best work of this well-known publishing house.

E. H. BARTLEY.

**A SYSTEM OF PRACTICAL MEDICINE.** By American Authors. Edited by Alfred Lee Loomis, M.D., Late Professor of Pathology and Practical Medicine in the New York University, and William Gilman Thompson, M.D., Professor of Medicine in the Cornell University Medical College, New York. In four imperial octavo volumes. Volume IV.—Diseases of the Nervous System and Mind; Vasomotor and Trophic Disorders; Diseases of the Muscles; Osteo-Malacia; Rachitis; Rheumatism; Arthritis; Gout; Lithæmia; Obesity; Scurvy; Addison's Disease. 1099 pages, 95 engravings, and 8 full-page plates in colors and monochrome. For sale by subscription.

Per volume, Cloth, \$5.00; Leather, \$6.00; Half Morocco, \$7.00. Lea Brothers & Co., Publishers, Philadelphia and New York, 1898.

The present volume ends the series. It will be received, and read, and studied with great pleasure.

The subjects discussed are of great importance.

The ability of the author in every case will be vouched for. The effort has been made to bring the treatise up to date. We congratulate the editor on the result. Nine of the articles appearing in this book are by Dr. W. G. Thompson. We cannot accuse the editor of inactivity therefore.

The system, as a whole, will be a valuable addition to our libraries. It aims to give such information as will be of value in practice. It aims to be a ready-reference book. We can safely say it has fulfilled its aim.

**PRACTICAL URINALYSIS AND URINARY DIAGNOSIS.** A Manual for the Use of Physicians, Surgeons, and Students. By Charles W. Purdy, M.D., LL.D., (Queen's University). Fellow of the Royal College of Physicians and Surgeons, Kingston, etc. Fourth, revised edition. With numerous illustrations, including photo-engravings and colored plates. In one crown octavo volume, 365 pages, bound in extra cloth, \$2.50 net. The F. A. Davis Co., Publishers, 1914-16 Cherry St., Philadelphia; 117 W. Forty-second St., New York City; 9 Lakeside Building, 218-220 S. Clark St., Chicago, Ill.

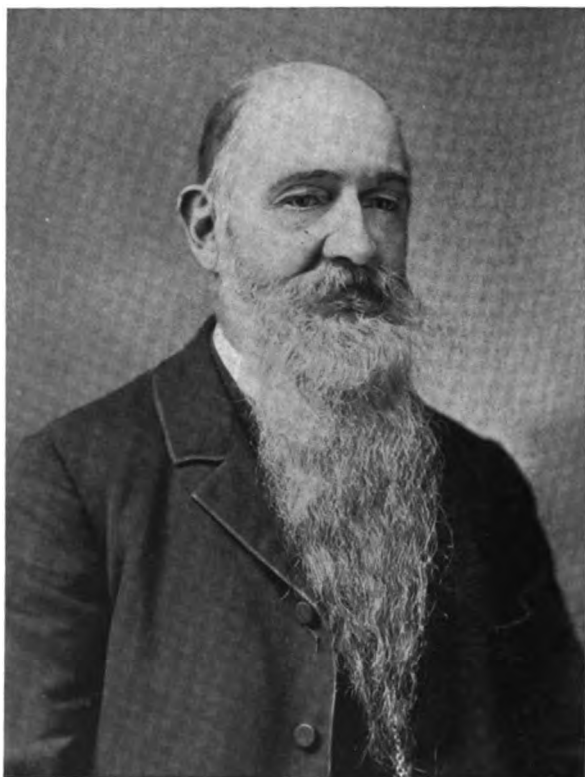
In the main this edition does not differ from the one which preceded it, though we note considerable changes in the chemistry of the urine and the incorporation of newer methods to replace some that are now advanced. Three editions in three years, and the adoption by sixty medical colleges as a text-book is a sufficient recommendation for the Manual.

**TWENTIETH CENTURY PRACTICE.** An International Encyclopedia of Modern Medical Science by Leading Authorities of Europe and America. Edited by Thomas L. Stedman, M.D., N. Y. City. In twenty volumes. Volume XV., Infectious Diseases. Wm. Wood & Co., N. Y.

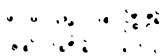
The first 249 pages of this volume are taken up with an exhaustive description of influenza—the most complete and in all respects the most satisfactory article on the subject we have read. Its appearance at this time is very opportune. We advise a careful examination of the treatise. The last 69 pages of the volume describe in the same careful and minute manner pyemia and septicemia. They are of equal interest and invite careful study.

The profession, the authors, and the publishers are to be congratulated for the high character that has been maintained in this work. It will live. It will be regarded as one of the great medical works of the age and we bespeak for it a successful career.

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**JOHN RUTGERT VANDERVEER, M.D.**



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CHAUNCEY LEEDS MITCHELL, M.D.

1884

# THE BROOKLYN MEDICAL JOURNAL

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## ORIGINAL ARTICLES.

No paper published or to be published elsewhere as original will be accepted in this department.

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### SEPARATION OF THE EPIPHYSIS OF THE LOWER EXTREMITY OF THE HUMERUS; WITH THE RE- PORT OF A CASE IN WHICH THE EPIPHYSIS WAS DISPLACED FORWARD.

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BY RUSSELL S. FOWLER, M.D.,

Instructor in Surgery, New York Polyclinic; Attending Surgeon, Brooklyn Hospital  
Dispensary; Adjunct to the Surgeon-in-Chief, Brooklyn Hospital; Assistant  
Surgeon, Methodist-Episcopal Hospital; Consulting Surgeon,  
Southern Dispensary and Hospital, New York City.

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Read before the Brooklyn Pathological Society, October 13, 1898.

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#### CASES COLLECTED FROM THE LITERATURE.

The following comprise practically all the cases reported. Hamilton, in his excellent work upon "Fractures and Dislocations" mentions several cases of separation of the epiphysis of the lower end of the humerus. He cites no personal ones.<sup>1</sup>

*Case 1.*—Dr. Watson's case: Infant of two years, whose arm was violently wrenched by the mother while lifting the child. This case was seen on the fourth day following the injury. The swelling was so great as not to permit of an immediate diagnosis.

On the ninth day, to quote Dr. Watson, "it was apparent that the shaft of the humerus had been separated from the cartilaginous expansion at the condyles near the elbow." The fracture was reduced and good position maintained by means of angular splints of pasteboard. Union was brought about at the end of six weeks; no mention is made of the result as regards mobility of the joint.<sup>2</sup>

*Case 2.*—Dr. Reeve of Dayton, Ohio, sent Hamilton a specimen of epiphyseal separation occurring in his practice in 1864. The patient was a girl of ten years, who fell ten feet, striking probably upon the elbow. The result was a compound fracture which, at the end of three weeks, necessitated amputation. A small fragment of the shaft of the humerus was taken away with the epiphysis. The specimen in this case shows that the separation was above the epicondyles, closely following the epiphyseal line. Hamilton has a picture of this specimen on p. 290 of his work.

*Case 3.*—Drs. Little, Voss, and Buck have reported a similar case.<sup>3</sup>

*Case 4.*—Lange reported a similar case. In his case the epiphysis was removed from the wound and a portion of the shaft excised. The final result was a useful arm.<sup>4</sup>

*Case 5.*—Champion in 1818 reported a case of a boy of 13 whose epiphysis was torn away by his arm being caught in machinery. Amputation was necessary.<sup>5</sup>

*Case 6.*—Mr. Hutchinson, Senior, describes a case in which the fragment projected and was excised. The patient recovered with a stiff elbow.<sup>6</sup> He also has seen "half a dozen recent examples of this form of injury; twice as many old ones in which advice was sought in consequence of the awkward deformity which often follows it." All these were backward displacements.

*Cases 6, 6<sup>1</sup>, 6<sup>2</sup>.*—Only one or two other cases similar to his were described by other surgeons about the same time. In these it was found that the epiphyseal line had been followed fairly well.

*Case 7.*—Clark reported a case, twelve years of age, in which death from gangrene occurred, due to tight bandaging. In his case the detached epiphysis did not include the epicondyles.<sup>7</sup>

*Case 8.*—Specimen in museum of Bellevue Hospital. This specimen shows the bones of the forearm of a child with cartilage detached which seems to be the lower epiphysis of the humerus. The history of the case is wanting.<sup>8</sup>

*Case 9.*—Hutchinson, Jr., had a case aged two years. Died

from croup fifteen days after the accident. The specimen from this case is in the Royal College of Surgeons' Museum. It shows that the line of separation follows the epiphyseal disc only half way diverging for the other half into the diaphysis.<sup>9</sup>

*Case 10.*—Hutchinson, Jr., child aged 13. Primary amputation. The detachment followed the epiphyseal line exactly except at the extreme external part.

*Cases 11 to 35 Inclusive.*—Were simple cases, in six the result, as regards deformity and elbow movements, was perfect. In eight a certain amount of limitation of motion, usually about twenty degrees, was present. In only one case was rotation affected. These cases were reported by Hutchinson, Jr.

*Cases 36 to 41 Inclusive.*—Compound-separation cases reported by Hutchinson, Jr., in which the diaphysis was reduced more or less perfectly.

*Results.*—No. 36 recovered with an almost perfect arm. No. 37 with thrombosis of the brachial. No. 38 (Volkman's (?)) recovered with paralysis of musculo-spiral but with good movements of the elbow. Nos. 39, 40, and 41 suffered amputation.

*Cases 42, 43, and 44.*—Compound-fracture cases reported by Hutchinson in which excision of the joint, more or less complete, was done.

*Results.*—No. 42 recovered with fairly good movement. No. 43, with a stiff joint. No. 44, with a fairly movable joint.

*Cases 45 to 50 Inclusive.*—Compound cases reported by Hutchinson in which the projecting end of the diaphysis was excised to facilitate reduction.

*Results.*—Nos. 45, 46, 47, and 48 ended "satisfactorily." No. 49 recovered with a stiff elbow. No. 50, underwent amputation within three weeks because of non-union. (Hutchinson is not responsible for this case.)

*Case 51.*—Reported by Hutchinson. Wright's case. Pulsation in the radial ceased on the eleventh day owing to pressure of the brachial between an anterior splint and exuberant callus. Case recovered but with persistent backward displacement of the epiphysis.

*Cases 52 to 58 Inclusive.*—Complicated cases mentioned by Hutchinson.

*Cases 59 to 64 Inclusive.*—Five cases of old separation of the epiphysis. Cases No. 59 and 60 were operated upon by Bardenhauer. Part of the diaphysis was removed. There was great improvement.

*Case 65.*—W. McAdam Eccles: Boy of ten years fell from a swing, alighting on his right hand. Elbow was painful. Medical advice not sought until some time had elapsed. No splint applied. At the end of three weeks elbow stiff and swollen. Right arm in position of flexion. Not able to extend it voluntarily. Full flexion could be satisfactorily accomplished. The biceps was kept contracted. Forearm somewhat pronated. Supination impossible to be completely accomplished without pain. Examination under ether showed flexion to be free. Extension could be forcibly accomplished. Crepitus about the joint. Other movements nearly normal. Dimple over the tip of the olecranon. Bony prominences bore their normal relationship to one another, but appeared to be on a plane anterior to the shaft of the humerus. Measurement of the arm negative. Some apparent increase in the length of the forearm. Skiagraphs of both elbow-joints show dimple mentioned above; also that the breadth of the limb in the region of the elbow was distinctly increased. This, without any local swelling. The ossific centers of the epiphysis were displaced distinctly forward. Result, good movements.

*Case 66.*—Russell Fowler. (Here first reported.) M. P., female, aged 9 years, was seen by Dr. Callender, then ambulance-surgeon to the Brooklyn Hospital, at her home on the afternoon of April 9, 1898. Two hours previous to his visit she had fallen from a chair to the floor striking upon the palm of the hand. There was present considerable swelling. The arm was within twenty-five degrees of complete extension. Disability was complete as regards the elbow-joint. The wrist and fingers could be moved. There was fulness in front of the elbow. The relation of the epicondyles to the olecranon was normal. The long axis of the forearm seemed to be pushed forward. Neither the trochlea surface nor the capitellum could be felt. Arm could be fully extended but could not be completely flexed. There was very little crepitus and this was difficult to produce. Reduction was readily effected but as readily recurred. It was accomplished by slight extension and direct pressure upward and backward of the small mass in the bend of the elbow. The arm was put up in extension with anterior and posterior splints and two compresses, one posterior and one anterior, to the joint. The patient was referred by Dr. Callender to my clinic at the Brooklyn Hospital Dispensary. She reported next day and as she was free from pain and the dressing seemed undisturbed the verification of the diagnosis was left to a later date. On the following day she returned, and

as there were considerable pain and swelling then present the dressing was removed and the arm put up in a comfortable position. I saw her for the second time on the 12th. The arm was semi-flexed, enveloped in opium and lead compresses, and supported by a sling. There was absence of pain and the fingers and wrist could be voluntarily moved. What struck me most forcibly on inspection was the broadening of the joint and the fulness in front of the elbow. The joint itself was swollen and the tissues around it somewhat so. The skin was reddened and somewhat discolored. There was pain on pressure. Passive movement of the joint caused pain which was greatest on extension. There was no apparent spasm of the triceps tendon but spasm of the biceps tendon was marked. The antero-posterior measurement of the joint was increased markedly as compared with the unaffected joint. On extension the long axis of the forearm was in a plane anterior to that of the humerus. The relation between the olecranon and the epicondyle was normal. No trochlea surface nor capitellum was evident. There was no interference with the nerve-supply of the muscles of the forearm nor was there any anesthesia present. The broadened lower extremity of the humerus was in the same plane as the shaft of the bone. The fulness in front of the elbow could be felt to be bony and of a fairly straight outline directly in the line of the joint. It could be reduced with the forearm extended but reduction was painful and immediately recurred. Pronation and supination could not be voluntarily accomplished. Crepitus was difficult to elicit and when elicited was not true bony crepitus, but softer in character. There was no depression present above the olecranon. The radial pulse was of equal volume in each wrist. The previous history of the case as regards causation was the same as described by Dr. Callender. Posterior dislocation of the joint was ruled out from the above history as was also supra-condyloid fracture of the humerus. Posterior displacement of the fragment in an epiphyseal separation could be readily ruled out by the absence of spasm of the triceps and the presence of the fragment anteriorly extending all the way across the joint, and the forward position of the long axis of the forearm in extension. Knowing the rarity of this separation of this epiphysis, and particularly the forward displacement of it, I was exceedingly careful in my examination of the case. As before stated reduction while readily accomplished was difficult to maintain in the extended position, so the fragment was

reduced in extension and while the fingers of the left hand held it in place the forearm was carefully flexed and a compress substituted for the fingers in the bend of the elbow-joint. Lead and opium compresses surrounded the parts. Cotton was applied and a basket-splint of wire was fitted on and held in place by bandages. I saw the case on the 16th and reapplied the dressing. There was more swelling present on this occasion and the case was told to report in two days. On the 20th the case reported at the hospital and was admitted to the service of Dr. George Ryerson Fowler. There was considerable swelling in and around the joint. Pulsation of the radial was imperceptible when the case was first admitted and the entire forearm was cold and pale. There was some doubt as to our ability to save the arm. Dressing was removed, the child put to bed, warm cotton was applied to the entire extremity, and the arm laid upon a pillow and surrounded with hot-water bottles. Luckily the pulsation in the radial returned and the arm became warmer. The position of the fragment could not then be determined on account of the swelling. Some few days later the child was anesthetized. The position of the epiphysis was fairly good. Considerable callus was present. It was evident that this exuberant callus in conjunction with the swelling of the parts had pressed the brachial artery against the dressing and so compressed it. The arm was put up at a little less than a right-angle. The patient remained in the hospital until May 22nd. At the time of discharge the position of the epiphysis was fair, there was still rather abundant callus, the joint was capable of slight motion which gave promise of increase. I subsequently saw her once more. There was increased motion and less callus. She had been using the arm, as advised, and had experienced no ill effects. The entire arm had regained almost all its strength.

*Case 67.*—Case in the service of Dr. George Ryerson Fowler. (Here first reported.) V. S., a schoolboy, 11 years. Admitted to Brooklyn Hospital, March 19, 1898. Fell from a bicycle and sustained a compound fracture of left elbow, with musculo-spiral paralysis. Examination with the finger through the open wound disclosed a separation of the lower epiphysis of the humerus with its backward displacement. The end of the diaphysis projected externally one inch above the depression in anterior surface of elbow. Deformity was reduced. Iodoform-gauze drainage. Wet dressing. Arm put up in right-angled splint. Rapid healing. Musculo-spiral paralysis subsequently treated by neurorrhaphy after Bruns' method, April 28, 1898.<sup>10</sup> The nerve was freed from

callus, fibrous cicatricial tissue split longitudinally beyond the limits of the cicatricial mass uniting the divided ends, and sewn together angle to angle with split kangaroo tendon. Plaster-of-Paris right-angled cast. Eleven months after function of nerve was restored. Movements of elbow good.

*Anatomy.*—The lower epiphysis of the humerus includes both epicondyles, the epiphyseal line being a fairly straight one and crossing the bone just above the two epicondyles. Directly over it lies the olecranon fossa. The epiphysis has at first five separate centers of ossification. These are subsequently reduced to three. The ossification in the capitellum is said to begin during the third year. Hutchinson has found it at eighteen months and Farabeuf says that it usually occurs during the second year. The width of the epiphysis increases during the first few years. The depth increases slightly. The nucleus over the internal epicondyle appears in the fifth year. The third nucleus over the trochlea appears in the eleventh or twelfth year. A small separate nucleus appears over the external epicondyle. Fusion with the shaft is completed in the sixteenth or seventeenth year. The epiphysis grows relatively smaller as the individual advances in years. The widening of the epiphysis causes it to become more distant from the olecranon fossa. From this brief account of the anatomy it will be readily seen that the time for separation must be before fusion with the shaft takes place, that is before the sixteenth or seventeenth year at the latest, and also that it is far more likely to occur before the twelfth year. Separation with the epicondyles still attached to the humerus must necessarily occur before fusion with the trochlea and epicondyles takes place, that is before the thirteenth year (Clark's case). It is evident that as the epiphysis is so closely associated with the joint, injury to it must be injury to the joint also. The above may be called predisposing causes. The exciting causes are severe wrenching of the arm, as by some person lifting a patient (example Case No. 1), or machinery accidents in which there is great wrenching (No. 5); falling upon the posterior part of the palm of the hand with the forearm either wholly or partially extended (so in the majority of cases); falling upon the elbow (Case No. 2).

*Varieties of Separation.*—In determining this we must form our conclusions exclusively from those cases resulting in necropsies, operations, either amputations or excisions, cases of compound fractures not operated on which admitted of direct examination, and from those in which X-ray pictures have been taken.



As in the etiology here also, account must be taken of the anatomy and development of the part at various ages. From the comparatively few cases reported it is exceedingly difficult to draw a definite conclusion. From the accompanying cases it is seen that there are three forms of separation; that in which the separation follows fairly closely the epiphyseal line, that in which it follows the line in part only and diverges into the diaphysis, and that in which there is separation without including the epicondyles. The cases from which we are to decide this point are Nos. 2, 3, 4, 5, 6, 6<sup>1</sup>, 6<sup>2</sup>, 7, 8, 9, 10, 36 to 58 inclusive, 65 and 67. These fulfil the conditions as they are cases in which autopsies, operations, or compound fractures occurred, or in which an X-ray picture was taken. As complete a history as is to be obtained will be found in the list accompanying this paper where due credit is given to each reporter. Of these, fifteen compound cases were under the direct observation of Mr. Hutchinson, Jr. He remarks that clean separation occurred only in the minority of his cases. These cases are Nos. 36 to 50 inclusive. Of the remaining cases we can throw out those compound fractures without direct evidence as to separation, *i. e.*, Nos. 51 to 58 inclusive. This brings the number of cases available for our conclusions in regard to this point down to eleven. Of these one (No. 7) did not include the epicondyles. This disposes of the third class of separation. Of the second class, those following the epiphyseal line for a part only and diverging into the diaphysis, we have two examples, Nos. 8 and 9. Of the first class, and these are fairly authentic cases, we have nine examples, Nos. 2, 3, 4, 5, 6, 6<sup>1</sup>, 6<sup>2</sup>, 8, 65, and 67. This shows that the epiphyseal line is followed fairly well in the majority of cases.

*Displacement of the Epiphysis.*—This may take place in three directions irrespective of the tilting of the fragment, *i. e.*, backward, forward, or laterally. Backward displacements comprise the majority of the cases. In all of Hutchinson's personal cases forward displacement was well marked but once. Eccles has lately reported one case (No. 65). In all of the elder Hutchinson's cases the displacement was backward. Some cases of lateral displacements are mentioned by Hutchinson, Jr., and probably some of the cases mentioned elsewhere in the list had this deformity. The author has seen one case (No. 66) in which the displacement was markedly forward. We may safely conclude that the very great majority of cases are displaced backward; that independent of this, or associated with it, there may be lateral dis-

placement; and finally, that anterior displacement is extremely rare. The three cases mentioned are all that are to be found in literature.

**Diagnosis.**—The elbow is slightly flexed and the forearm is supported by the hand of the uninjured side. The forearm is midway between pronation and supination and the arm is helpless. The deformity is marked in some cases, not so prominent in others. There is backward tilting of the epiphysis or its complete backward displacement. The latter resembles a posterior dislocation and undoubtedly has frequently been mistaken for it. This backward displacement is due to the indirect force applied through the forearm, as in a fall upon the hand with the forearm extended on the arm, and its continuance is due to the action of the triceps. The fact that there is no outline of the trochlea and capitellum in posterior displacement is of use in diagnosing the condition from posterior dislocation. In case no deformity is present, pressure just above the line of the joint will develop slight crepitus and a characteristic give. Lateral displacement, either external or internal, may be present and is due to direct violence. Forward displacement is rare and its diagnosis will be elaborated in connection with the case reported. The antero-posterior diameter is increased. The olecranon is more prominent posteriorly. The tendinous insertion of the triceps into the olecranon is plainly perceptible. There is slight shortening of the arm. The displacement is easily reduced and readily recurs. The relation of condyles and the olecranon is normal; that is in flexion, a line drawn from one epicondyle to the other in a vertical plane crosses the tip of the olecranon, and in extension a line drawn in an horizontal plane also touches the tip of the olecranon. Crepitus is present. Its character is soft as of two cartilaginous surfaces rubbing upon each other. It is not easily elicited. Lateral movements are difficult to elicit. There is considerable mobility of the joint. Extension increases the deformity; flexion decreases the deformity. Separation of the epiphysis occurs most commonly before the seventeenth year. It is rare in adults. Dislocations occur most frequently between the fifth and fifteenth year, and it is this fact that has led some observers to state that separation of the epiphysis is a frequent complication of posterior dislocations.

The diagnosis lies between posterior dislocation of the elbow, supra-condyloid fracture of the humerus, and separation of the epiphysis. Posterior dislocation can be readily ruled out as the

normal relationship exists between the olecranon and the epicondyles. Anterior dislocation or other forms of dislocation at the joint could hardly be mistaken for separation as the presence and position of the capitellum and trochlea surface would decide. The most difficult diagnosis is between separation and supracondyloid fracture. They have many symptoms in common. The direct cause is often the same. Wrenching would point in favor of separation. The age of the patient would be of use, the younger the case the more liability to separation in place of fracture with the same amount of indirect force. Separation is nearer the transverse line of the joint, in fact is in the line, while fracture is above it. The position of the arm is about the same but the prominence in the elbow is more marked in fracture than in separation; in fracture, occupying a position above the transverse line of the joint and in the center of the long axis of the extremity, while in separation it is in the transverse line of the joint and extends completely across it either posteriorly or anteriorly. The character of the crepitus differs materially. In separation it is difficult to elicit and soft in character while in fracture it is easily elicited and distinctly bony. The differential diagnosis between anterior and posterior displacement of the separation is to be made by the presence of the fragment in a line anterior to the long axis of the upper arm, the absence of spasm of the triceps tendon, the impossibility of palpating the fragment posteriorly, and the low degree to which the arm can be flexed.

*Complications.*—Rapid effusion into the joint and swelling around it.<sup>10</sup> Exuberant formation of callus causing pressure on the brachial artery or injury to neighboring nerves. This injury may result in the case of the artery in gangrene if not rectified early. The symptoms are greatly weakened or absent pulsations of the radial artery at the wrist, increasing coldness of the extremity below the point of fracture, and a gradual increasing sense of numbness and heaviness. Hutchinson reports a case in which pulsation at the wrist was stopped by projection forward of the diaphysis and there were also marked signs of pressure on the median nerve. Reduction caused these symptoms to disappear and as a final result union was perfect and the motions of the elbow excellent, except that flexion was limited to ninety degrees. Hutchinson also mentions a case recorded by Wright, in which on the eleventh day radial pulsation ceased due to pressure of the brachial between exuberant callus and an anterior splint. The final result in this case was recovery, but with persistent back-

ward displacement of the epiphysis. Also a case that recovered with thrombosis of the brachial artery (No. 37.). The nerves in the neighborhood may suffer as a result of pressure of the callus. According to the nerve involved there may be symptoms of interference with the function of the radial, the median, or the ulnar, and in case of very excessive callus formation as sometimes happens when the reduction is imperfect, the musculo-spiral nerve may be affected. Cases illustrating each of these conditions have been reported. Hamilton records one case aged four in which deformity resulted and numbness over the ulnar area lasted into adult life. Another case operated on by Hamilton for forward projection of the diaphysis, complete loss of pronation and supination, persistent flexion of the wrist and fingers and paralysis of both median and ulnar nerves, the latter, having been displaced in front of the elbow, was replaced at the operation and some bone was chiseled away. Hutchinson remarks that the operation does not seem to have been a thorough one. No improvement followed. To the author's mind in view of the history of the case, it would seem that there was present paralysis of the musculo-spiral in addition to possible injury of the median and ulnar. Volkmann has recorded a case of compound separation. The protruding diaphysis was reduced and the result, as far as movement was concerned, was good but there resulted permanent paralysis of the musculo-spiral. In the author's own case there was absence of pulsation in the radial artery some days after the injury due to exuberant callus, swelling, and a recurrence of the deformity.

*Compound Separation.*—(1) May be primarily the result of the injury or secondarily the result of pressure of the fragments on the soft parts. This was present in fifteen of Hutchinson's cases. Among other cases on our list we find nine authentic cases of compound separation, making a total of twenty-five cases. Of these cases all but three were operated on.

*Other Complications.*—But one died of intercurrent disease. (Case 9.)

*Prognosis.*—As regards life, the prognosis in simple uncomplicated separations is excellent. They do not die as a result of the separation. In complicated cases the prognosis as regards life should be good. There were but two deaths in this series, one from croup (Case No. 9), the other from a tightly fitting bandage (Case No. 7). As regards a useful elbow the prognosis is not so good.

Hutchinson seems to have had the best results.

Amputation was necessitated in eight cases and done in a ninth without necessity (Nos. 2, 3, 5, 8, 10, 39, 40, 41, and 50). Excision, complete or partial, was done in twelve cases (Nos. 4, 6, 6<sup>1</sup>, 6<sup>2</sup>, 42 to 49, inclusive, also 50, which was subsequently amputated). Reduction without excision in four cases (Nos. 36, 37, 38, and 67). Out of sixty-seven cases, the result is not mentioned in twenty-three, stiff joint is mentioned in six cases, good movement in twenty-two cases, and a practically perfect result in six cases. Nine suffered amputation and one died from croup as before mentioned. Probably a little less than 50 per cent. recover with good movement.

*Treatment.*—Flexion is the position which is best suited to keeping the displacement reduced, while the fragment is to be reduced by slight traction in the extended position and direct manipulation over the epiphysis. A dressing which will immobilize the whole arm is to be recommended but pressure should be exerted over no portion of the elbow. A pad in the elbow with an acute-angled posterior splint of wire is best. The dressing should be frequently examined in view of the possible complications. The case should be under observation for from five to six weeks. Accompanying paralyses are best left until the callus has ceased forming. There are no special indications in the treatment other than the flexion of the forearm on the arm. Massage and passive motion should not be begun before the third week.

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## SOME UNLOOKED-FOR OCCURRENCES IN THE PRACTICE OF MEDICINE.

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The successful practitioner of to-day should never appear surprised at anything which may occur in the ups and downs incident to the management and treatment of disease. If he does seem surprised it will be sounded all along the line that the doctor in attendance was surprised and perplexed because something occurred which he did not anticipate, and, according to the opinion of the laity the doctor should know all and consequently anticipate everything. As you all know nothing pleases or seems to please the laity more than the newspaper announcements: "Doctors Are Puzzled." "Strange Case Which Cannot Be Explained by the Doctors," etc.

Certainly this does not mean that the medical attendant should not feel surprise. Human nature is the same all over and the doctor is no exception to the rule when it comes to feeling surprise because of some unlooked-for occurrence. Indeed, I sometimes feel that the practice of medicine is one round of surprises for the average medical man, be he instructor or the one willing to be instructed.

If the practice of medicine consisted in simply having a textbook knowledge of the etiology, pathology, symptomatology, prognosis, and treatment of disease, then the recent graduate would be a more valuable man than the doctor who graduated years ago and who has put his time to good use by practising careful observation and habits of study. The theory of medicine is indispensable but with it the successful medical man must be in possession of ample clinical or bedside experience. Powers of observation are of paramount importance and without them the practitioner of medicine is very much handicapped.

But notwithstanding good sound theory, ample clinical experience, and the possession of acute powers of observation, the careful and conscientious doctor will meet with surprises and

perplexities which will at times try his patience cruelly. It is on this account that I am tempted to report a few cases which have been observed by me all of which have in them certain unlooked-for occurrences, hence the title of this paper.

CASE I.—Miss H., birthplace, Norway; age 27. Diagnosis: Neurasthenia complicated with la grippe.

Has suffered for a long time with neurasthenic pains. These pains are general in character and no region in the body or limbs seems to be free from them. For the relief of the pains several anodynes were tried including morphia in very large doses, but nothing seemed to have any power to effect the desired result. Finally it was decided to try the hydrobromate of hyoscin which had worked very well before in a bad case of renal colic in hypodermic doses of  $\frac{1}{250}$  of a grain. The dose exhibited in the case under consideration was  $\frac{1}{500}$  of a grain. Within three minutes from the time the dose was given all pain subsided. Later, say two minutes, patient became greatly depressed, heart's-action feeble and irregular. At times it was difficult to take the radial pulse. Temperature,  $100\frac{1}{8}^{\circ}$ ; pulse, 140; respirations, 25. Delirium was present of a low-muttering type combined with exhilaration of spirits. Complete anesthesia supervened. Jaw-drop was also present to a slight extent. Pupils dilated. Hands cold and tremulous.

Treatment consisted in giving whisky, aromatic spirits of ammonia, caffeine and strychnin sulphate in  $\frac{1}{60}$ -grain doses. She gradually rallied and after a long period of debility finally recovered completely.

One peculiar feature of this case was the fact that although the pains had existed for a long time previous to the exhibition of the hyoscin no pains ever occurred again and it is now six years since the accident occurred.

The poisoning in the case was of course unlooked-for as the dose was a minimum one and the preparation used before in much larger doses with good effect.

CASE II.—Chas. J., age, 40; birthplace, Norway; occupation, stevedore; family history, negative.

On May 23, 1893, was admitted to the medical service of the Norwegian Hospital. The diagnosis at the time of admission was acute articular rheumatism of one-week's duration. Heart, lungs, and kidneys normal. Patient was put on the alkaline treatment and progressed very well until May 27th, four days after his admission, when he became wildly delirious. Coincident with

the delirium the pulse became fast and the temperature rose to 103°. The delirium being considered alcoholic it was decided to place him in a strait-jacket and give him chloral hydrate and bromid of potassium in five and twenty-five-grain doses respectively every two hours till sleep was obtained. At 9 P.M. the first dose was given without any effect. Apparently delirium continued as before and restlessness was extreme. At 11 P.M. the nurse in charge was about to give a second dose when she noticed that the patient appeared to be sinking fast. Becoming alarmed, I was hastily summoned, and before my arrival at the bedside our patient was dead. The skin was of a dusky-blue color and very hot to the touch. The temperature taken in the axilla after death was 109°.

No autopsy, I am sorry to say, was performed.

Here was a strong, robust man in the prime of life taken with acute articular rheumatism without a damaged heart and with good lungs and kidneys dying suddenly as if struck by lightning after a short period of delirium. Certainly the occurrence was entirely unlooked-for and the cause of death a little puzzling.

CASE III.—Wm. B., age, 40 years; birthplace, Scotland; occupation, business-man; condition, married.

Family history good. A brother died quite suddenly with pneumonia after three-days' sickness. His age was 42 years. All the other members of the family have been strong and healthy. The family generally is a long-lived one.

*Previous History.*—Mr. B., has always been a robust man and noted for his muscular strength. One week ago he contracted what he thought was an ordinary cold but later symptoms of la grippe manifested themselves. He dosed himself with quinin, etc., but did not improve though he attended to his business every day until yesterday when he was forced to take to his bed.

*Present Condition.*—Complains of weakness, pains in the bones, chilly sensations, sick stomach, great thirst, pain in right side of chest, constipation, loss of appetite, headache, and slight cough. Tongue coated. Malar flush present. Temperature, 102°/°; pulse, 100; respirations, 30.

*Physical Examination.*—Inspection shows a well-developed chest. Breathing a little hurried.

*Palpation.*—Increased vocal fremitus at lower border of right lung.

*Percussion.*—Slight dulness over lower lobe of right lung.



*Ascultation.*—Crepitant râles over lower part of right lung.

*Diagnosis.*—Acute lobar pneumonia situated in lower lobe of right lung.

*Course of Disease.*—Patient went through the various stages of the disease very nicely until the eighth day when the crisis occurred. For three days convalescence progressed as would be expected. On December 11th, three days after the crisis occurred, insomnia set in and it was thought best to give something to produce sleep. Temperature and pulse were normal at this time and heart-sounds good and clear. At 9 P.M., five grains of chloral hydrate and twenty-five grains of bromid of potassium were given with the result that patient slept five hours and felt much refreshed the following day. He continued to feel well all the next day and in the evening lay down to go to sleep. After remaining in bed a short time he told his wife that he was a little afraid that he would not sleep without the medicine, and in consequence a dose of the chloral and bromid mixture was administered. The dose and mixture were the same he had taken the night before.

About one hour from the time the sleeping-medicine was given his breathing became very short and I was sent for immediately. Upon my arrival I found my patient in a condition of collapse and promptly resorted to the use of cardiac stimulants, and after two hours of hard work over patient I was rewarded by seeing him rally slightly. For the next twenty-four hours he remained very weak, the pulse ranging from 130 to 140 and the temperature varying from 100° to 101° in the evening. Respirations, 22. No abnormal pulmonary or cardiac sounds heard. Exactly twenty-four hours from the time of the first attack of difficult breathing a second attack of dyspnoea set in, pulse became very rapid and cyanosis made its appearance. In spite of heavy stimulation he quickly sank and died within a half-hour's time from onset of second attack. The death certificate was signed, la grippe, acute lobar pneumonia, and cardiac paralysis.

There can be no doubt that our patient died of cardiac paralysis superinduced by an attack of acute lobar pneumonia which was preceded by the "grip," but why should cardiac paralysis occur so suddenly in a well-developed man not an alcoholic, who went through the different stages of pneumonia so nicely and convalesced for four days and was seemingly on the way to perfect recovery? I have asked myself a number of times if the chloral and bromid had anything to do with the death of this patient and

if so why it acted so well the night before when the same dose was administered.

I believe you will agree with me when I say that the death of Mr. B. was an unlooked-for occurrence, and it is my sincerer wish that no gentleman here will have the misfortune to meet such a treacherous case in the course of his professional career.

CASE IV.—Wm. R., age, 52 years; birthplace, England; occupation, cabinet-maker; condition, widower; family history, good.

*Previous History.*—Was well up to two hours ago when the patient was suddenly attacked shortly after dinner with violent pains in the abdomen and in epigastric region. The pain was sharp and of a lancinating character. Various household remedies were tried but nothing gave any relief whatsoever.

*Present Condition.*—Patient appears to be in violent pain. Says the pain is in the epigastric region and across the abdomen near the umbilicus. Pulse, 100; respirations, 30; temperature, normal. Pulse is weak and thready. Sweat stands out on forehead and the expression bespeaks agony.

An uncertain diagnosis of gall-stone colic was made and sulphate of morphia given hypodermically in  $\frac{1}{4}$ -grain doses until  $\frac{1}{2}$  grain was administered. The pain eased up slightly but returned again in two-hours' time when  $\frac{1}{4}$ -grain doses were given every two hours by mouth until four doses had been taken. At 8 A.M. I again saw patient. He was still in great pain and complained very bitterly. Was catheterized and a small quantity of normal urine obtained.

At 9 A.M.  $\frac{1}{2}$  grain of morphia sulphate with  $\frac{1}{75}$ -grain of atrophin sulphate was administered hypodermically. He soon became quiet and appeared to be sleeping easily. Respirations at this time, 20; pulse, 96. While patient was asleep the abdomen was found to be slightly tympanitic on percussion. Pressure in epigastric region produced groans on the part of the sleeping patient. Left bedside at 9.30 A.M., and was hastily called again at noon. Was told that Mr. R. had remained asleep since the hypodermic injection had been given in the morning. Pupils moderately contracted. Respirations, 20; pulse, 140, very thready and difficult to count. Face, cyanotic. Jaw-drop present. It became evident that our patient was in collapse and notwithstanding active stimulation he died at 1.30 P.M., just eighteen hours from the onset of the attack.

No autopsy was allowed. The death certificate read: Primary

cause of death, intestinal obstruction (volvulus). Secondary cause, general diffuse peritonitis.

The question is, what did this man die of? Was it as the death certificate read or was it a ruptured gall-bladder?

I believe you will agree with me that death in this case might reasonably be unlooked for especially at the beginning of the attack.

CASE V.—Mrs. S., age, 35; birthplace, Prince Edward Island, Canada; occupation, housewife.

*Family History.*—Negative.

*Previous History.*—Two months ago patient was delivered of a full-term healthy child. The labor was an easy one and normal in every particular. The recovery was uneventful and our patient was up and around the house in two-weeks' time. One week ago Mrs. S. became troubled with obstinate constipation in conjunction with internal hemorrhoids. Various kinds of remedies were tried but nothing gave any relief. On last evening she retired at the usual time and after remaining in bed a short time she complained to her husband of pain in the rectal region. Witch-hazel was applied and some relief was obtained.

At 3 A.M. Mr. S. was awakened by heavy breathing and upon investigation he found his wife in convulsions. I was immediately summoned. Examination showed a condition of eclampsia present. Pupils, normal; pulse, 118; respirations, 30; temperature, normal. Urine was obtained and found normal in every particular.

Rectal examination showed that three large hemorrhoids were projecting from the anus, they were much swollen and inflamed and proved to be internal hemorrhoids which were becoming strangulated.

After a good deal of trouble they were pushed back into the rectum with immediate cessation of the convulsive seizures. Patient remained unconscious for the following thirty-six hours and then gradually rallied from the stupor. Stimulants were used freely after convulsions ceased. Recovery was uneventful and Mrs. S. has remained in good health ever since.

Before closing the report of this case I would like to state that this woman never showed signs of kidney lesion throughout her recent pregnancy, neither is she neurotic to the slightest degree.

There may have been some cases of eclampsia produced by inflamed and constricted hemorrhoids but I have never heard of

any, consequently this case is another one of those unlooked-for affairs.

CASE VI.—Mrs. S., age, 42; birthplace, England; occupation, housewife. Mother of seven children. Family history shows no hereditary taint.

*Previous History.*—Patient had always been an exceptionally strong, robust woman up to March, 1897, when she was attacked with acute lobar pneumonia. She made a good recovery after a long and tedious convalescence.

In June, '97, she visited my office and engaged me to attend her in her expected confinement, which according to her figuring, would be in September, 1897, the last menstruation having occurred near or around the Christmas before. Upon inquiry she said she felt life, had had the morning vomiting, was increasing in size in the abdominal region, and in fact had all the symptoms of pregnancy. So sure was she that she was pregnant that it never occurred to her that such might not be the case. In July the urine was examined, both chemically and microscopically, and found normal in every particular.

In August she was given the fluid-extract of cascara sagrada for constipation.

On September 23, 1897, I was summoned hurriedly to her home and found her apparently in labor pains. The pains were occurring every five minutes and seemed exactly like real labor pains. After waiting some time for them to become stronger in character and nearer together I made an ordinary vaginal examination and became convinced that the pains were false and that labor had not yet begun. A teaspoonful of the U. S. solution of morphia was ordered to be given every hour until relief from the pains was obtained.

On September 28th I was again called. Inquiry showed that the pains had returned again and that the patient was confident that this would not prove another "false alarm." Mrs. S. told me voluntarily that she felt life, and as she expressed it, was sure "the baby was kicking her ribs." While making a vaginal examination during this visit the hard, dense feeling of the cervix prompted me to make a careful bimanual examination and to my utter surprise the fundus of the uterus was found to be below the symphysis pubis. There was no dilatation at all of the os externum. Some lacteal secretion was present. The abdominal enlargement was all due to adipose tissue.

Here then was a case of spurious pregnancy and consequently

an unlooked-for occurrence, especially in a woman who had borne a number of children before.

The subsequent history of Mrs. S. shows that when told that she was not pregnant she became convinced of this fact and at once began to improve. Menstruation returned again the following December and has been more or less irregular ever since.

CASE VII.—Mrs. R., age, 26; birthplace, U. S.

*Family History.*—Mother died of pulmonary tuberculosis when Mrs. R. was one week old. Father is alive and enjoys very good health. Other members of the family are healthy.

*Previous History.*—Patient has always enjoyed good health but has had great trouble in regard to her children. Within the last five years she had given birth to three children; all of these infants are now dead. Child number one was born after a natural labor and appeared to be perfectly normal in every respect until the third day, when it suddenly died apparently in a condition of asthenia. Before death it turned blue in color, skin became wrinkled, and breathing slow and panting in character.

Child number two was also a strong, healthy babe when born. It continued to be well until it was one and a half years old, when the heat around the Fourth of July last became too much for it and in consequence it became completely exhausted and died in a few hours' time. Before death a diarrhea set in which helped to weaken it along with the intense heat.

Child number three was born in August, 1898. It appeared healthy when born and was as well-nourished a child as it has ever been my pleasure to see. Respirations were normal, and vigorous crying occurred soon after its birth. While the nurse was dressing the infant she noticed that its breathing was becoming catchy. Means to resuscitate it were at once employed, but all in vain, death occurring in a few minutes' time. One point in regard to this child was that the umbilical cord was small in caliber and shorter than usual. The child was also paler than infants usually are. The father of these children, I neglected to state, is a healthy man free from any hereditary or syphilitic taint. The question which has suggested itself to me is: why should all these children die so suddenly and unexpectedly without any signs of serious disease? Can it be that the tubercular taint in the mother's family has anything to do with the deaths of these infants?

Atelectasis, which Holt speaks of, may have been the cause of

death in child number three. The death certificate was signed: Asphyxia and asthenia.

No autopsies were held on any of the children, thus the only sure way to clear up the question was lost.

CASE VIII.—Mrs. W., age, 35 years, mother of four children. In December, 1894, I was engaged to attend Mrs. W. in her coming confinement, which was expected the first part of May, the last menstruation having occurred in August. On January 9, 1895, Mrs. W. miscarried, the fetus being very small, body nine inches in length, and weight about one pound. Eyelids agglutinated. Hair and nails about visible.

According to my judgment, this fetus could not have been any further along than the fifth month, still it lived, and is alive to-day, larger and stronger than the average child of its age.

Of course every one, myself included, who saw the child the first few days of its life, gave an unfavorable prognosis, but the fact remains that it lived and grew strong notwithstanding the poor care it received at the hands of obliging neighbors. One point in regard to this fetus is that it did not open its eyes until it was two weeks old and then it got up the worst attack of ophthalmia it has ever been my misfortune to witness. The treatment for this trouble was boric-acid solution (saturated) and nitrate of silver two grains to the ounce.

Can any one tell me why this poor, miserable, premature fetus should live and all the children in Case VII. die as related? Certainly there must be something in the protoplasm of cell life which causes apparently healthy cell life to die and "near unto death" cell life to live.

Professor Virchow of Berlin, at the International Medical Congress, held at Moscow from August 19 to 26, 1897, in his opening address said: "Life has no other origin than from life itself, and this is one of the truths which the labors of pathologists and biologists of the present century have established beyond a possibility of doubt. For long men of acumen and true scientific minds were inclined to doubt the unbroken continuity of life and to regard spontaneous generation as possible if not actually probable. This theory is, however, dead and dead beyond the possibility of resurrection, a result which we owe to the labors of many earnest investigators, conspicuous among whom stands the grand figure of Louis Pasteur. The rôle of chemical action in the processes of life or of its continuity has also been found to be less important than it

was at one time supposed to be. Life is in the cell. He who speaks of serum as a vital force apart from cells is wrong. The grand truth of cellular succession may be assailed in the future as it has in the past, but it will never be thrown to earth; it will shine through all the long years of the Twentieth Century, few, if any, of which the venerable speaker said in a half-regretful voice it would be his privilege to see. This might be his last congress, but whether it was or not, his earnest hope was that the final mystery of life might be solved and its solution proclaimed at some future congress. If it is to be solved, solved it will be by the united labors of the biologist and the pathologist; it is in their laboratory that the key will be forged which shall unlock the door that still holds us back from a full knowledge of the processes of life."

CASE IX.—Mr. M., age, 29; birthplace, France. Family history good.

*Previous History.*—Patient was well up to five hours ago when he was attacked with a pronounced chill followed by pain in side accompanied by a dry hacking cough.

*Present Condition.*—Mr. M. presents an anxious expression of countenance. Malar flush present. Pulse, 112; respirations, 34; temperature,  $102^{\frac{2}{8}}/^{\circ}$ . Complains of pain in right side, of weakness, thirst, cough, prostration, and feeling of great depression.

*Physical Examination (Inspection).*—Breathing hurried. Slight depression in the infraclavicular regions.

*Palpation.*—Vocal fremitus increased at base of right lung.

*Percussion.*—Slight dullness at base of right lung.

*Auscultation.*—Fine crepitant râles with slightly prolonged expiration over dull area.

*Diagnosis.*—Unilateral acute lobar pneumonia in the first stage.

*Treatment.*—Calomel, gr. v.; Dover's powder, gr. x. To be given at once. Six grains of the susquicarbonate of ammonia were given every three hours.

Upon my return the following morning I was much surprised to find my patient up and apparently well.

Examination showed pulse, respiration, and temperature normal. Pain in side and cough had gone. Physical examination showed that the crepitant râles had left over the dull area of the lower lobe but there was still present the slight dullness.

Subsequent history shows that Mr. M. made a quick recovery.

Here then was one of those unlooked-for cases, it also brings up the subject of aborting pneumonia. Personally, I firmly believe and feel that this case of mine was aborted by the calomel and Dover's powder administered.

Brain abscess I have seen mistaken for typhoid fever, indeed the temperature chart simulated the temperature of typhoid. The true condition present was revealed by an autopsy. Another case which proved to be an abscess of the liver was treated as typhoid for six weeks, later empyema diagnosed and resection of the rib performed. This patient died soon after the operation. The autopsy in this case also showed the true condition.

Lately I have seen a mammary abscess occurring in a well-developed man.

Have also seen a rash appear simulating scarlet fever after the exhibition of the sulphate of atrophin in  $\frac{1}{100}$ -gr. dose.

Other cases might be cited, but I trust that I have reported sufficiently to show that there are many irregularities in the practice of medicine and that it is far from being exact, particularly as regards prognosis. Professor Loomis was in the habit of stating in his magnificent way that if any one thing ever gave him a reputation it was his ability to make a correct prognosis. No doubt Professor Loomis was right in what he said, but how are we to become proficient in prognosis when we are confronted from day to day with so many unusual and unlooked-for occurrences?

I beg to apologize for the haphazard way I have recorded the cases in this paper, but as my one aim in reporting these cases has been to stir up discussion I trust that you will be charitable should my wish in this regard be realized.

*Conclusions.*—First, great care is necessary in the exhibition of the hydrobromate of hyoscin. Chloral hydrate should also be given with watchfulness.

Second, the prognosis of disease demands more study and attention than it has heretofore received. As regards its importance there can be no question.

Third, we should demand an autopsy in all cases where the cause of death cannot be easily explained.

Fourth, in cases of pneumonia secondary to the "grip" the prognosis should always be guarded.

Fifth, in eclampsia where the urine is normal other pathological conditions must be looked for and corrected.

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## THE KIDNEY AND PREGNANCY.

BY JAMES L. KORTRIGHT, M.D.

Read before the Brooklyn Gynecological Society.

In a paper read before this society in 1896, I proposed at a future time to discuss the relations between pregnancy and diseased conditions of the human organism. The subject has been found so vast as to make it impossible to compress into the limits of a single paper what ought to be said upon the relations between pregnancy and the diseased conditions of even a single organ. On this occasion, I desire to offer a brief statement concerning the relation between pregnancy and the kidney, mentioning first the effects of pregnancy upon the kidney and in inducing disease in a kidney previously healthy; and second, kidney disease as affecting and affected by an intercurrent pregnancy. In the paper to which reference was made, the renal complication stood second as a cause of puerperal mortality; 50 out of 224 women dying from these causes. This statement is sufficient to announce the importance of our subject.

All of the bodily organs share in reproduction. The left cardiac ventricle becomes hypertrophied, the blood passes into the conditions of hydremia, anemia, and hyperinosis. The liver, spleen, and thyroid gland increase in size. The respirations are increased in number and depth, and the excretion of  $\text{CO}_2$  is increased. Appetite and digestion are stimulated, especially in the later months, and the bodily weight becomes 8 per cent. greater than before. The functional activity of the skin is increased as regards perspiration, growth of hair and deposit of pigment. The urine becomes more abundant and of lower specific gravity, the chlorides are increased, the phosphates and sulphates are diminished. Glucose is often found in small quantities. Thirty per cent. of pregnant women have albuminuria with or without symptoms. The condition is found most frequently at the time of labor, especially if parturition be prolonged. Intra-abdominal pressure is increased, and the pelvis of the kidney and the ureters may be dilated from the weight of the womb. The irritability of the nervous system is heightened, the emotions are excitable, the vascular system is in a condition of hyperesthesia; palpitation, flatulence, flushings, polyuria, wandering pains are common.

From these changes in the various organs we may see how pregnancy tends to interfere with the proper function of the kidney. The mother eats, digests, and excretes for two. The heart is hypertrophied, hence more blood is forced through the kidney. The blood is in a condition of hydremic plethora, hence the kidney receives a fluid poor in nutritive substances and rich in excrement. The intra-abdominal pressure being increased, the renal efferent vessels, both venous and excretory, are pressed upon. Digestion, at first impaired with nausea, is later on improved with enlarged appetite. The liver is frequently incompetent, with fatty deposits in the hepatic cells. Metabolism is consequently faulty. The normal intestinal excretion is diminished by constipation. For these reasons the kidney has increased work to do, and decreased opportunities of performing it. Doubtless, in each case many causes are operative, so that all of the ten theories of the causation of puerperal convulsions mentioned by Delafield in the "Twentieth Century Practice" are true. The kidney is both loaded by an increased amount of excretory substances and damaged by faulty waste products. No single substance has ever been isolated from the blood or urine in such quantity as to cause dangerous symptoms, but a gradual accumulation of nitrogenous waste, of potassium combinations, and of animal alkaloids may occur with disastrous results. The amount of such deleterious substances in the blood seems to be in inverse ratio to the amount of urea in the urine. These bodies are evidently not products of normal retrograde metamorphism; for it is a significant fact that dangerous symptoms rarely arise or continue during the puerperal period, when the greatest possible amount of waste material is presented to the kidney for excretion.

When the kidney becomes incompetent properly to perform its function, certain lesions occur and certain disease symptoms appear. There may be dilatation of the ureter and pelvis of the kidney, an acute degeneration of the kidney, an acute exudative nephritis, an acute productive nephritis, or a chronic nephritis may be inaugurated. Degenerations are set up in the epithelium of the tubes and glomeruli. Exudations of serum, of white and red blood-cells, and of coagulable matter from the plasma of the blood occur into the Malpighian bodies, into the lumen of the tubules, and into the stroma of the cortex. A growth of new connective tissue also takes place in the cortex. These lesions, except the last, may disappear with the termination of the pregnancy. In 6½ per cent. of cases of albuminuria, however, the changes inci-

dent to chronic Bright's disease remain with permanent symptoms; and in 16 per cent. additional of the cases there follow slight manifestations of kidney involvement, as shown by a trace of albumin and a few hyaline casts and leucocytes.

The first signs of incompetency of the kidney are edema of the feet and albuminuria. We have seen that one-third of all pregnant woman show albumin in the urine at some time during gestation. In multipara, albumin has a graver import as regards organic renal disease than in primipara. In the latter, however, its appearance is more likely to be followed by other and more serious symptoms before delivery. Edema of the feet frequently occurs without other symptoms. It is of much greater significance in primiparæ than in multiparæ, and in them is most apt to be followed by serious symptoms. Either or both of these conditions of themselves is of comparatively little importance; but their presence should lead us to look for other and more important symptoms. Marked constipation is frequently another early symptom. I always warn my patients against this condition, and name it to them as one of the reasons for seeking medical advice. Constipation, of course, may exist apart from any kidney impairment, but its presence should make us watchful. Digestive disturbances, especially nausea and vomiting, late in pregnancy, often show beginning renal failure. Patients who vomit after they have felt life, should report at once to their medical attendant. Anemia with great pallor of skin and mucous membranes is frequently associated with nausea. Its presence indicates hemic involvement, and is almost always followed by grave symptoms before delivery. Next, perhaps, in frequency and importance is headache. A prolonged, severe frontal headache, especially if associated with high arterial tension and rapid pulse, is usually the premonition of poisoning of the central nervous system.

Eye symptoms, as dimness of vision even to complete blindness, central scotoma, micropsia, megalopsia, scintillations, are due to albuminuric retinitis. This condition is marked in the macular region of the retina. In this affection we find coagulable exudation in the papilla and optical layer, hemorrhages into the retina, with absorption of the clot and subsequent atrophy, degeneration of nerve-fibers, fatty infiltration of the granular layer, consecutive changes in the rods and cones, with accompanying pigmentation, and hyperplasia of connective tissue, with fatty degeneration. Complete recovery is frequent, though the

condition occurring in successive pregnancies may result in optic-nerve atrophy, with permanent damage to vision. If retinitis occur early in pregnancy, and persist in spite of appropriate treatment, gestation should be ended. Interference is not warranted in the last few weeks unless the inflammation is unusually severe. Blindness may occur without inflammation of the retina or other known lesion of the eye, the so-called uremic amaurosis of pregnancy. This condition requires the induction of premature labor as the only means of preserving sight.

General tonic and clonic convulsions may come on before labor, during delivery, or after it. They may be single or they may be repeated. In these cases, the life of the child is so frequently lost that it deserves hardly a thought in considering curative treatment. The mother so often succumbs either from the violence of the convulsive attacks or from suppression of urine and coma after the convulsions cease, that instant and active treatment should be at once instituted.

I have purposely confused the symptoms of two different conditions in this semeiography; because clinically the two conditions of toxemia and kidney disease are associated. The toxemia of pregnancy is not serious as long as the kidney is competent, and failure of this organ, either from the too great demands made upon it by toxins, or from disease of the renal structure itself, results in the same grave consequences most to be feared. The treatment of this most important condition, moreover, whether prophylactic or curative, is the treatment of the toxemia. There are four indications for prophylaxis: first, to watch the urine as an index of the manner in which the kidney is performing its function and of the amount of toxins circulating in the blood; second, to prevent the formation of toxins; third, to relieve intra-abdominal pressure; fourth, to maintain excretion by skin and intestine.

(1) The urine of all pregnant women should be regularly examined, especially after the sixth month. The early symptoms of toxemia are often slight, and the patient is often surprised by the onset of violent symptoms. Unfortunately, these unobserving patients are the ones most likely to neglect sending their urine for examination. Examination of the urine should be chemically for albumin, sugar, and total solids, and microscopically for casts. Though the presence of a few hyaline casts may not be of much significance, yet even they should be enough to put us on our guard. It is of the utmost importance to obtain an approximate

idea, at least, regarding the amount of urea excreted in twenty-four hours. (2) The formation of toxins is best prevented by careful regulation of diet, and by an abundance of pure air. Pregnant women should not eat too much meat, and that only once a day. Lamb, mutton, fish, and oysters are best for them, with raw or cooked fruit, and with the lighter fresh vegetables in moderation. Graham or whole wheat bread and all cereals are also helpful. Our German women who eat heartily of beef and heavy vegetables and drink a great deal of beer, come to labor with their tissues loaded with excreta, and are not as free from complications during the puerperal period as are American women without so much flesh. Spirits should be interdicted during pregnancy, especially if there be any kidney complication. Our Irish women, who are our greatest consumers of ardent spirits, furnish the largest number of deaths from this complication. Metabolism is most complete when the patient has a great deal of pure air, and she should go out in all weathers. Exposure to cold or wet does not harm, if it is not too prolonged, and if the clothing be changed and the proper cutaneous circulation be restored immediately upon return. It is to the praise of the women of Brooklyn that they are not ashamed to be on the streets while carrying their children. (3) The gravid uterus makes quite enough pressure upon the kidney without the added weight of heavy skirts, tight bands, and a laced-in corset. We are not as influential with our patients as their dressmakers are; but we should try to secure light clothing which is best suspended from the shoulders. All of the limbs should be protected by flannel undergarments, except in the hottest weather. Multiparæ who carry their children very low, from relaxation of the abdominal walls, are helped by a bandage, which also tends to lift the uterus away from the ureters and the iliac veins, and to diminish the liability to edema of the limbs. (4) To promote excretion by the skin, frequent baths are necessary. Even our tenement-house women are beginning to appreciate this fact. I consider that securing a proper evacuation of the bowels is the most important duty that the future mother has to perform. I tell her that her daily stool is of greater importance than the preparation of the infant's wardrobe. The diet mentioned above is all laxative. Cascara sagrada, either as fluid extract or as the aromatic trade preparation, daily doses of compound-licorice powder, sulphur and cream of tartar, saline mineral waters, small doses of colocynth and podophyllum are all useful. Large quantities of fluid ingested, act both upon the bowel and

kidney. A glass of milk in the morning purges some patients, though it constipates others. If there be beginning signs of renal incompetence, saline diuretics, spiritus ætheris co., infusion of digitalis, if the arterial tension be not too high, will be found useful in increasing kidney secretion. Large quantities of fluid such as alkaline mineral waters, milk, bitter vegetable infusions, or even of ordinary water, will prove of service. I have a certain amount of faith in mercuric chlorid, as a means to combat the anemia, to increase the flow of urine, to diminish the edema, and to improve nutrition. It should be given for a long time in doses of at least one-fortieth of a grain three times a day.

In this manner we will tide over 80 per cent. of our patients, who are in danger from renal failure and faulty metabolism, until they are safely delivered.

I have gone at length into this prophylaxis because it is of the greatest importance. After the onset of severe symptoms, the case is frequently hopeless, either as to safe delivery, the continuance of maternal life, or the maintenance of health. In a series of 500 fatal cases, studied by Prutz, and quoted by Collins of Detroit, hemorrhage was found to be the most common cause of death. Bronchopneumonia was also common. In 368 of these cases, only 7 had healthy kidneys. In 46 per cent. there was acute nephritis, and in 11.6 per cent. there were chronic inflammatory changes evidently antedating pregnancy. Changes in the liver, mostly hemorrhagic, occurred in 213 cases. Further study would doubtless show further lesions. It is obvious that when these conditions have been established cure in difficult or impossible, and our duty and opportunity lie in preventing these serious lesions. If, therefore, the treatment sketched above is proving itself inefficacious, and the patient's headache is increasing, her mental faculties are becoming more obtunded, her anemia and dropsy are growing greater, her vomiting and constipation persist, her sight is lost or diminishing, and her urine remains of low specific gravity and shows stationary or diminishing excretion of urea, our duty is to terminate the pregnancy. Nice discrimination is needed as to whether or not it is safe to wait till the child is viable. Fortunately many of these patients decide the case for us either by aborting spontaneously or by the occurrence of convulsions. For the treatment of eclampsia there are three indications: (1) Control the seizures, (2) empty the uterus, (3) inaugurate excretion. To control the attacks an anesthetic or a vasomotor depressant, such as veratrum, is indicated. Ac-

couchement forcé in clean hands is a safe procedure in those cases in which labor does not begin with the convulsions. Hot baths, wet pack, and hot-air baths may start up the action of the skin and relieve the overcharged kidney.

After delivery, whether artificial or natural, premature or at term, long and careful treatment must be instituted to cure or improve the kidney condition. Dr. Frank Baldwin, in a paper read before this society, advocates suckling the infant as a cure for the nephritis, and brings forward his experience to show that lactation diminishes the quantity of albumin and improves the general nutrition. Milk should enter largely into the dietary. Meat should be eaten only once a day, or should be omitted altogether. Cereals and fruit limit the formation of xanthine bodies. Iron, arsenic, and bichlorid correct the anemia. Nevertheless, in spite of our best efforts, one patient in twenty will remain in the condition of chronic Bright's disease, with persistent dropsy, anemia, weakness of vision, and poor nutrition.

If the tax of a pregnancy upon a healthy kidney may result so disastrously, how much greater is the damage wrought in a kidney already the subject of disease. Such patients at each successive gestation show progressively graver symptoms. They present anemia, dyspnea on exertion, slight edema of the feet, in the interval, and the signs of active kidney disease during gestation. If this process be repeated continually, at last they die either in convulsions, in coma, or from ante-partum or post-partum hemorrhage. Nearly all of our fatal cases of hemorrhage have presented during pregnancy the dyscrasia of kidney disease. Almost all case of concealed ante-partum hemorrhage belong to the class of patients now under consideration. Such patients also are our most dangerous cases of abortion. They bleed excessively, and seem to have no resisting powers against sepsis, but readily light up severe pelvic and peritoneal inflammations. Occasionally, however, the disease in the kidney grows better instead of worse with each succeeding pregnancy. As, for example: a primipara, aged thirty, was first seen at the time of labor, having suffered from ante-partum hemorrhage for twelve hours. The child was dead. The urine showed albumin in great amount. Convalescence was prolonged by phlebitis of both femoral and external iliac veins. During the next four years, she aborted three times in the early months. At 35, she gave birth to a living child, having suffered from renal symptoms after the fourth month of pregnancy. At 38, she again became pregnant, and

suffered from edema of the feet, but without albuminuria or other kidney symptoms, except anemia. She was safely delivered and suckles the infant.

We are often called upon to decide whether or not a woman who has had renal complications during gestation should bear any more children. In all cases after such a pregnancy she should have a long rest, that the integrity of the organ may be obtained and assured. If during the interval the urine shows signs of renal incompetency, and there is evidence of faulty metabolism, the answer should be negative. If the alarming symptoms have subsided promptly after labor, especially if it has been possible to carry the case to term, and if careful and repeated quantitative examination of urine show that proper renal action has been established, the answer may be affirmative. Patients, however, who have shown the symptoms so often described in two successive pregnancies, and especially if the first appearance of symptoms was during a pregnancy subsequent to the first, such patients should be warned against having more children. Such a patient, if already pregnant at the time of seeking advice, should be carefully watched in accordance with the rules already laid down. This class of patients conceive very readily, and I am not sure that their condition warrants unlimited inducing of miscarriage, or castration of the husband, but it certainly justifies marital separation if other preventives fail. Nothing appeals to us as family practitioners more than to watch the progressive advances of such a patient into realms of danger with each succeeding pregnancy, until she succumbs, leaving a family of little children dependent and desolate.

Offering apologies for not presenting fruits of original research on this occasion, I have endeavored to bring a succinct digest of what is known regarding this most important subject and to deduce practical rules for our guidance in the management and cure of this large and interesting class of cases. The subject is a wide one, and I trust that the discussion will have to do chiefly with the management of parturient toxemia, the prevention of kidney complication, and how best to avoid the necessity of emptying the uterus, and thus to carry the pregnancy to a safe and fruitful issue.

#### DISCUSSION.

Dr. Jewett: This paper, like everything that Dr. Kortright has written and said before this Society, bears the marks of



scholarly ability, and we may well regret that he is to leave us. The pregnant condition, however, I do not think is quite so bad as he has stated it. If all women accepted his views, the occupation of the obstetrician would be gone.

The blood changes of pregnancy to which so much importance was formerly attached we now know are slight in physiological conditions. In a large proportion of pregnancies no serious departure from the normal blood-state of the non-gravid woman is observed.

Sugar is present in the urine in some cases. I have made examinations in a large number of cases for sugar in the last month of pregnancy, and I find it in a few cases, lactose, perhaps, not glucose.

With reference to the etiology of eclampsia, we are still a good deal at sea. We have no definite knowledge of the etiology. Pressure is still claimed to be a possible factor, but it cannot be an important one. I believe it has little to do with the matter. The condition is doubtless a complex toxemia. It is probably produced by faulty metabolism and by failure of the emunctories that ought to carry off the poisons. The most important eliminator of these poisons is the kidney.

With reference to diagnosis, I should look first to the face rather than the feet for the edema of nephritis. But convulsions may occur in the absence of edema. Among the earlier symptoms, as well as the later, are those belonging to the nervous system.

In general, if the woman is apparently well and passes a good quantity of urine, I do not think we need have much concern about her. However, the observation of the patient should go farther than this, and the urine should be closely watched and frequent chemical examinations made during the last months. It is important that it be examined at occasional intervals earlier.

The presence of albumin is an important diagnostic sign. We know from reported cases that eclampsia may occur without albuminuria, but it has not happened to me to meet such a case. Yet a large percentage of albumin may be found and, if the urine is abundant, the woman may escape convulsions.

The daily excretion of urea is accepted as the best evidence of the functional activity of the kidneys. Five hundred grains per diem is the average normal amount. I have taken the time to personally estimate the daily excretion of urea in a considerable number of cases in the last month of gestation, and I have been

surprised to find it less than half this amount in many instances in which the patient was apparently doing well. Much depends upon the quantity and kind of food. The quantity of urine is nearly as reliable a guide as that of urea. The quantity of urea is not necessarily an exact measure of the quantity of poisons that are being eliminated.

I have frequently had occasion to note that the familiar rule for computing the daily quantity of urea from the specific gravity is unreliable.

Pregnancy nephritis, I have come to believe, should never go on to convulsions. The same may be said of chronic nephritis in pregnancy. This amounts to saying that no woman ought to die of puerperal eclampsia if properly watched. Is this going too far?

In the treatment of pregnancy nephritis a milk diet is one of the first essentials. This must often be modified if the patient becomes weak. Cereals may be added now and then. A little light meat food may sometimes be added for a time, but the albuminuria and the other symptoms are usually aggravated on increasing the proteids. The most satisfactory therapeutic measure in my hands has been the use of large quantities of water. This treatment must be systematically enforced. The water may be given hot or cold, not too cold, plain or charged. It is generally an advantage to add a mild alkaline carbonate. The quantity of urine under this treatment may be kept at 60 or 70 ounces daily. It is readily carried to 100 ounces. This sometimes requires a good deal of compulsion. The woman must be convinced that her life depends upon the secretion of an abundance of urine.

Of late I have made little or no use of diuretic drugs, but have relied most upon a restricted diet and the use of water as a diuretic, together with catharsis and diaphoresis. In a certain proportion of cases pregnancy must be interrupted, but the number of such cases may be much diminished under the foregoing management.

When in neglected cases the patient has become nearly anuric, water by the stomach is not to be depended upon. Here saline injections are of great value. In emergencies the intravenous infusion is sometimes best, as being most prompt. As a rule, the retro-mammary injection is to be preferred. I recently delivered a woman in my service at the Long Island College Hospital after several convulsions. The delivery was completed at 11 A.M. and at 7 P.M. no urine had been passed, and only an ounce was

obtained by catheter. A pint of the saline solution was injected behind each breast every four hours. Before morning twelve ounces of urine were voided, and thirty ounces in course of the following day. Complete recovery followed.

The acceleration of labor is often an important measure. In 90 per cent. or more of the cases, after labor is over, there are no more convulsions. Unfortunately, cases are sometimes met in which, in spite of all that can be done, the convulsions continue after labor.

Chloroform is of the greatest possible value in operative cases. Under chloroform any necessary interference can be undertaken without fear of convulsions.

If necessary, the uterus can be emptied in two hours. In emergency it can be emptied in fifteen minutes. Manual dilatation of the cervix is the usual method. If the emergency is sufficiently urgent, delivery may be accomplished in fifteen minutes by Dührssen's incisions. These measures, however, are seldom permissible until labor has progressed far enough, either by natural or artificial means, to have effaced the os internum.

Dr. A. J. C. Skene: I gather from the fact that Dr. Kortright is not present, and something that was said by Dr. Jewett, that there is a possibility of Dr. Kortright leaving us. If that is so, I hope it is only for a time. I would like to say that the service that he has rendered the Society in times past, including the present classical paper on this subject, certainly impresses us all with a feeling of the deepest possible regret if it is true that he is to leave us.

I feel that it would be unwise for me to discuss a paper of this exhaustive character and so thoroughly well presented. I would only say this, that, while I have no doubt that all that is said in the paper is correct, from the doctor's experience, I hope that he has been led to exaggerate the dangers.

One point with reference to the causation, and that is the pressure. I accepted that theory in years gone by, but to-day I think that it has very little, if anything, to do with causing kidney disease, and for this reason: if there was pressure enough made, or if it was possible that such pressure could be made, upon the ureters, sufficient to injure the kidneys, I do not believe that any of our cases would recover as promptly as they are known to do. The dilatation of a ureter induced by temporary pressure is one of the conditions that patients seldom recover from in a short

time. That, and other points I might mention, have led me to discredit the pressure theory.

That the edema of the limbs is a symptom of pressure rather than of renal trouble, I accept, as Dr. Jewett has already stated. I might further say that I have believed that the main factor in the causation was the derangement of the organic nervous system in patients predisposed to glandular disease of all kinds, those in whom we find all the glands, including the kidneys and the liver, of course, below par in their structure and function. Those are the cases that are most disposed to this affection. I can hardly go as far as Dr. Jewett in regard to the toxic causation. In the first place, that there may be, on account of heightened nutrition, more materials to be thrown off and eliminated that act as toxic agents in case they are not thrown off, is true; but I can hardly accept the statement that the fetus in utero is responsible for the débris that has to be thrown off. I can hardly see how, in a process of building up which obtains in intra-uterine life and involves no disintegration, the child should act to the toxic condition of the blood; and so I would be inclined to lay much less stress upon that condition as a causation of the renal trouble than others are inclined to do.

Then one question with reference to the treatment of renal trouble. The question involves two subjects that are somewhat different, renal disease and puerperal convulsions, and the diagnosis differs. In reference to diagnosis, I think a great deal more stress should be laid upon the competence of the kidneys to eliminate than upon the casts or albumin. I think one relying upon casts or albumin may be led astray.

With reference to the treatment of the renal conditions, I think water is one of the most valuable, providing it is distilled water. A patient came to me from New York with albuminuria, scanty urea, with casts, and with marked edema of the limbs, but, more alarming still, edema of the face and edema over the sternum. I was quite alarmed, and told the patient not to come to me, but to place herself in the care of a physician near by her. I was quite anxious about her; she had not progressed very far in her gestation. The physician put her on large quantities of distilled water, and wrote me that she completely recovered, and she was delivered safely, without any suggestion of convulsions. Although I am not an enthusiastic hydropathist, yet I am very near it; providing the water is good I am very sure it is a most valua-

ble therapeutic agent. Its value in correcting disorders of the kidney is great.

Dr. Forlyce Barker some years ago wrote a very interesting pamphlet on belladonna, to shorten the first stages of labor. He gave it to his cases that had had tedious labors that he knew about, and kept them under the influence of it during the later months of gestation, and found that the dilatation progressed more rapidly than when it was not used. I saw him in consultation in a case of albuminuria, the wife of a physician in this city, where the child died in utero two weeks before the time, and labor coming on in two weeks, she was delivered, and had albuminuria, but no convulsions. He suggested the use of belladonna in her case, telling me that he had found not only that it had shortened the first stages of labor, but in many cases of albuminuria the patients improved under its use. That was years ago, when I had some opportunity to practise obstetrics, and I had a number of those cases of albuminuria and used it; and, so far as I could see, it certainly had a beneficial effect, and I believe it had its influence on the organic system. Of course, I used other means of relieving the kidneys, but I think to-day that it is much more reliable in acting on the kidneys than diuretics generally.

The use of the bichlorid of mercury was mentioned in the paper. I believe in the occasional use of the mild chlorid of mercury so as to stimulate the secretions of the liver and kidneys. I know of no diuretic that is equal to it either in acute or chronic kidney troubles. It is a poor kidney that will not respond, temporarily, to the use of a mild chlorid of mercury.

Dr. Jewett: Dr. Skene's allusion to belladonna reminds me to mention the use of cocain in the same manner. Prompt relaxation of the cervix, it is claimed, follows the application of cocain to the cervix. It is applied, sterile, of course, by means of a cotton pledget or a cheesecloth compress swept repeatedly over the entire cervix.

Dr. Chase: I will simply say a word in relation to one or two features of the subject under discussion. I am quite in sympathy with the views expressed by Dr. Jewett, that, unless there is very serious renal trouble, which predates pregnancy, few or no women should die of uremic convulsions.

Now, as to the danger-signals and to the cause. I say what I have to say because I believe there is a popular notion among the profession at large that in a given case, if the urine is examined and there is an absence of albumin, the patient is all right. I

think that most practitioners congratulate themselves if they examine the urine and find no albumin. I will relate briefly a case. I saw a patient in consultation at the Long Island Hospital last spring who was about five-months' pregnant and really very ill. The physician was a man of intelligence and skill. He suspected she might be uremic, as there was present a train of symptoms which of themselves were almost sufficient to conclude that she was suffering from uremia, and yet a chemical test revealed no albumin. A microscopic examination was made and no casts were found. After examining the urine I believed that the woman was on the brink of an explosion and any minute might have a convulsion. A test was made and it was found that the urea secreted amounted to only 170 grains a day. It certainly seemed to me, if the woman was taking very much albuminous food, the secretion was very low. And yet Dr. Jewett seems to have seen cases where the secretion was as low as 150 grains a day and he did not think it meant danger. But in other conditions than those of pregnancy, I think that so slow a secretion of urine is almost always a sign of danger. I suggested in this case that the patient take large quantities of water, pure spring water, and the only other remedies given her were some of the bromids to prevent convulsion. Another careful analysis was made after a few days, and she was secreting the usual amount of urea. And, while she had a premature labor, from causes which I suppose were present at that time, still, the uremia was relieved practically by the use of the water, and I believe it is our most valuable diuretic.

I am very much delighted with the experience and observation of Dr. Jewett, and his belief that convulsions should very rarely occur in pregnant women if they are properly watched. Of course, we are likely to see cases in which no such care has been observed. I have in my mind a woman who was uremic, and it had not been recognized by her physician, and she became blind. But those are a class of cases which never ought to happen in the practice of any physician.

I think that the influence of this Society will be felt through this paper, and in the discussion pointing out the dangers, the method of averting the dangers, and the remedies applicable to them.

Dr. Jewett: I am afraid I was obscure. I would not like to be quoted as saying that so small a daily excretion of urea as 150 grains does not indicate danger. It certainly does, but the case

may sometimes go on safely with no more urea than this for several days. The point is this, that we cannot rely absolutely upon urea as a positive guide to the activity of the kidneys in eliminating the poisons.

Dr. Chase: I have no doubt that the amount of urea is not a measure of danger, and yet I think it is usually accepted that it does bear some close relation to the existence of other toxic agents, whatever they may be. But I have no doubt that Dr. Jewett's statement that, if the quantity of urine is very large, these other substances are doubtless being carried off satisfactorily.

Dr. Shoop: I had a case of a woman who was within one week of delivery, and sent for me one evening; she had had a convulsion. I had examined the urine previous to that and saw no sign of albumin, but she ran down stairs in her bare feet on a cold night to open the door for her husband; after going up stairs she had a chill from the effect of the exposure, and in the next twenty-four hours developed a convulsion. There was suppression of urine; not a drop passed for twelve hours, and on palpation bladder was apparently empty. I found her in the convulsive seizure and hastily poured some fluid extract of *veratrum viride* in a teaspoon, holding it over gas-blaze until it boiled, and injected 12 minims in the thigh. The convulsion ceased in a short time and did not return. I also applied hot-water bottle to the back over kidneys. She made a rapid recovery, with the exception of a burn she got by the carelessness of the nurse, who placed the hot-water jug uncovered against the skin, after I left the house. I confined her two days after this attack. I saw the child again when it was about six-months old. Its face was pale and puffed, and the indications were that it had some kidney trouble.

Is it the experience of any here that the child is likely to develop renal trouble in these cases?

Dr. Jewett: I have frequently seen that happen.

## PROGRESS IN MEDICINE.

### OBSTETRICS.

BY CHARLES JEWETT, M.D., SC.D.

#### THREE CASES OF REPEATED EXTRA-UTERINE PREGNANCY.

Zangemeister (*Zeitschft. f. Geb. u. Gyn.*, B. 38, H. 3, p. 404). The author reports three cases. The first patient had never been pregnant before. She presented no evidence of gonorrheal infection. The menses had recurred regularly every three weeks, but the flow had been scant. The fruit-sac ruptured at the end of the third month. The left tube, with the gestation-sac, was removed, rapid recovery following. Four months later she presented herself again with a pregnancy in the right tube. This, too, was extirpated with a successful result.

The second patient was tuberculous; she had been confined once at term and had had six abortions. Pelvic inflammation, probably of gonorrheal origin, had occurred after the fifth abortion. The eighth pregnancy was in the tube. Laparotomy was done and the gravid tube was extirpated.

One year later a gestation-sac was found in the other tube. Operation was declined.

The third patient had had three children, the last eleven years before. There was no evidence of pelvic infection. She was operated upon for tubal pregnancy in May, '97, and again seven months later.

The author has collected thirty-one cases of recurring ectopic pregnancy in addition to his own. The short interval in his own cases was also noted in some of the others referred to. As is well known, pregnancy may exist in both tubes at the same time. Rarely two fruit-sacs have been found in the same tube.

In eleven out of eighteen cases the first pregnancy was in the left tube. In seven cases in which the opposite tube was examined it was healthy in two, thickened in two, and in five the ovaries were diseased.

#### CAUSE AND IMPORTANCE OF POST-NATAL TRANSFUSION.

Köstlin (*Zeit. f. Geb.*, 1898, B. 39, H. 9). The author has restudied this question. In children of more than 3500 grams, in



primiparæ, the post-natal afflux of blood amounted to 54 grams.

In children of 3000 to 3500 grams the quantity was 45.6 grams, in primiparæ and 32 grams in multiparæ.

In children of 2000 to 3000 grams it was 30.7 grams in primiparæ and 26.5 grams in multiparæ.

Generally the quantity of the blood which passes from the mother to the fetus after delivery is larger in primiparæ than in multiparæ, and much larger when the child is larger.

In a number of cases the quantity of blood which escaped from the cord after *immediate* ligation was noted, with the following results:

In children of more than 3500 grams the quantity was 86.6 grams in primiparæ, and 68.1 grams in multiparæ.

In children weighing from 3000 to 3500 grams it was 68.7 grams, in primiparæ, and 61.6 grams in multiparæ.

In children of 2000 to 3000 grams it was 46 grams in primiparæ, and 61 grams in multiparæ.

The author rejects the theory of thoracic aspiration. The following experiment was tried: Immediately after dividing the cord a cannula was introduced into the fetal end and connected with a funnel containing a saline solution. When the funnel was held at the level of the umbilicus, the level of the liquid in the funnel remained unchanged. When the funnel was raised 30 cm. it emptied itself into the fetal circulation and at the same time pulsations were noted in the umbilical arteries. Köstlin concludes that the cause of the afflux of blood to the fetus after birth is to be found in the uterine contractions. He recommends late ligation of the cord, after some minutes, when pulsation in the cord has ceased.

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## SURGERY.

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BY GEORGE RYERSON FOWLER, M.D.,  
ASSISTED BY RUSSELL S. FOWLER, M.D.

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### LONGITUDINAL INCISION FOR OPENING KNEE-JOINT.

F. Starkow (Institute of Operative Surgery, Moscow University, *Surgery*, 1898, p. 436) advocates the anterior longitudinal incision (Professor Diakonow) dividing the patella; Ollier's original incision modified by longitudinal splitting of the lig.

patellæ and separation to either side, a bony lamina being preserved. It is claimed for the incision that it preserves the lateral ligaments and extensor muscles and in case of accidental wounding of the popliteal artery allows of ready anastomosis by means of the uninjured lateral articular vessels.

#### ASEPTIC OR ANTISEPTIC LIGATURES?

Dr. C. Haegle (Prof. Socin's Surgical Clinic, Basel, *Centralbl. f. Chir.*, 1899, V., 132-134) offers some interesting observations upon silk ligatures. Uninterrupted healing by primary intention is now the rule in aseptic cases, and yet we sometimes read in yearly reports or in exact statistical reports that single ligatures are from time to time cast off, sometimes after weeks or months, especially in cases of hernia. It is also noted in these reports that cultures from the ligature thus cast off gave negative results, *i. e.*, were sterile.

It was supposed that the site of ligature had become necrosed, hence the process was called "necrotic," or suppuration of a foreign body; or that chemic products were propagated by the ligating material, thus producing the suppuration.

Author has studied the casting off of ligature material for some time. A number of observations have been made which apparently solve the problem. It was found that in cases where ligatures had been cast off months following the operation without producing inflammatory appearances in the neighborhood, the secretion surrounding the threads was free from germs, microscopically, and in most instances cultures failed to develop. But section through the thread-knot (silk) showed the presence of numerous germs between the silk fibers. This was proved by several cases. Author does not discuss how germs entered the threads or why they remained inactive for so long a time.

In the surgical clinic at Basel, silk ligatures have been used for a long time. These are sterilized by exposure to steam or actual boiling in water. Cultures made from this silk immediately after preparation were negative. If, however, a short time has elapsed since sterilization and the thread silk is then used, it will not be found sterile except a sufficient amount of bichlorid has been communicated to it by the hands to prevent germ growth.

As these threads sterilized by heat might be a source of danger in wound-healing, the author experimented with silk treated antiseptically, and selected for the purpose corrosive sublimate.

By means of numerous observations, referring to different operations, the author found that while silk sterilized thermically, after being handled, always showed germ life, silk treated by sublimate gave negative results. This same negative result was obtained when the hands which touched it were not clean, or were purposely infected beforehand.

Sublimated silk was introduced into the Basel Clinic four months ago, and since then no suppuration caused by ligature has been observed.

The silk is prepared by a short boiling, and is subsequently placed in a strong, watery solution of sublimate, where it is kept for days. This so strongly impregnated the silk that subsequent washing with alcohol or water failed to affect it.

Author concludes that so long as there is no certain method of disinfecting the hands a certain risk of interfering with the healing is incurred by using silk simply sterilized thermically.

He thinks that experimental support of this form of silk preparation would be of interest.

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## PROCEEDINGS OF SOCIETIES.

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### BROOKLYN GYNECOLOGICAL SOCIETY.

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*Stated meeting held, Friday evening, December 2, 1898.*

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The President, Dr. Wm. H. Skene, in the Chair.

#### PRESENTATION OF SPECIMENS.

Dr. Baldwin: Vermiform Appendix:—This appendix was removed three weeks ago from a patient twenty-five years old, a trained nurse. Her first illness was a year ago last June, at which time she had an acute attack of what was diagnosticated appendicitis, from which she recovered. At that time there was also made out a movable right kidney. The matter of operation was considered, but thought not advisable, and she recovered sufficiently to go to work again. Since that time there have been three other attacks, and each time she has been advised to have an immediate operation, but she did not consent. The last attack was in the early part of October, while she was in Victoria, B. C., where she was again advised to have immediate operation.

I saw her about five weeks ago, after her return East. At

that time she was having constant pain in the right side. And I may say that in the intervals she had had to give up two cases because of the amount of pain in the right side. I was at no time able to make out a tumor or any mass whatever, but there was always a distinct point of tenderness.

The symptoms became so grave, as far as her professional work was concerned, that I decided to do an exploratory laparotomy, and found this little appendix, which was bent so acutely on itself as to completely occlude the lumen. At the point of bending there was nothing left of the muscular coat, nothing left but the peritoneum; beyond that point the canal was not patent. For half an inch next to the gut it was about the normal size. There were no adhesions to the appendix, but a good many around the head of the cecum. The wound was closed, and from that time she has been able to turn in bed better than since the initial attack. The patient made an uninterrupted recovery.

Since the initial attack she has gained flesh, and the movable kidney has become fixed by a deposit of fat, at least it is no more movable than I consider normal.

I present this specimen for criticism. Up to this time she is entirely relieved, but that such an appendix could be responsible for so much suffering seems remarkable to me.

Dr. A. J. C. Skene: I would like to ask Dr. Baldwin if, after the operation, the kidney became fixed in its normal position or fixed in its displaced position.

Dr. Jewett: I would like to ask if the point at which the angle existed was the point of obstruction. I notice the distal end is very much distended. The result is sufficient proof that the trouble came from the appendix. The kidney could hardly account for it.

I think it is sometimes the case that the appendix is the source of vicious pain without inflammatory lesion, at least of the peritoneum. I removed an appendix recently which was  $4\frac{1}{2}$  inches long; there were no adhesions, but it was greatly distended. The patient had repeatedly had violent attacks of colic, which his physicians had relieved by injections of morphine. For some time their appendical origin was not recognized. Relief was complete and permanent after removal of the appendix.

The appendix which I presented at the last meeting was somewhat similar to the one Dr. Baldwin presents. It was bent at a sharp angle at the seat of obstruction, and in preparing the speci-

men by Abbe's method, the alcohol could not be forced beyond the strictured point. On opening it it was found not to be completely occluded, except by a fecal concretion. The distal end was swollen and very thin, and was filled with blood, which, of course, had been coagulated by the alcohol.

Recently in a case of movable kidney, in which the abdomen had been opened for other reasons, I anchored the kidney from the abdominal side. A silk ligature was armed with two long Keith needles. The needles were passed a short distance apart through the kidney, and out, and the ligature tied over the skin. Another ligature was applied in similar manner. The ligatures were removed in seventeen days. The result was entirely satisfactory.

Dr. Baldwin: When this appendix was first removed I attempted to pass a silkworm gut to the distal end, but could not get it past the bend.

The reason I did not attempt to do anything with the kidney at the time was because it seemed so perfectly normal; it was no more movable than the left kidney, and there were no symptoms attributable to it.

The diagnosis of movable kidney was made in June, a year ago, and made by me at that time. At the same time I made a diagnosis of appendicitis, and saw the patient at intervals after that, but it was not until about ten months later that she began to gain in flesh, after she went to the Pacific coast, where she stayed for about five or six months.

Dr. A. J. C. Skene: Regarding the diagnosis of appendicitis, especially in those cases where there has been no peritonitis in the neighborhood, and consequently no adhesions, most marked, indeed, almost diagnostic symptoms may be present without any adhesions or surrounding peritonitis. And, furthermore, I believe that one has to depend on the clinical history and the symptoms for the diagnosis, because, notwithstanding the statements of many experts to the contrary, that the appendix is easily made out, I am not quite prepared to believe it. Those who are familiar with the literature know that there are some members of the profession who claim that they can detect the normal appendix and outline it, but I do not believe that is a possible thing. I believed at one time it was possible, and that I was simply lacking in *tactus eruditus*, until some cases came under my observation, one of which will illustrate my meaning. The patient was suffering from pain in the region of the appendix, but more especially

in the region of the psoas muscle, the pain extending down into the thigh, and being of a neuralgic character. One of the best diagnosticians in cases of appendix affections in Greater New York saw her repeatedly, and made out a diseased appendix, with adhesions, but claimed that the end of the appendix was free. I certainly tried, with all the means at my command, to find that appendix, but could not find it at all, to say nothing of not being able to detect the adhesions at one point, and the freedom of the end of it. But I did believe that there was something the matter with the psoas muscle, and that her symptoms were attributable to that. It had been decided that it was very necessary to operate without delay, and the time had been appointed for the operation. I agreed that it was a case where exploratory operation was very decidedly indicated, and agreed that it should be done. A letter from the husband of the patient, and a subsequent one from the operator, both stated that the appendix was perfectly normal, not only in condition, but in size and in all its relations, so much so that I believe it was left. Then I felt relieved, and came back to my original view regarding the difficulties of making a diagnosis based upon physical signs.

In uncomplicated, acute cases there is no great difficulty in making a diagnosis. Taking the clinical history and the physical signs together, I think diagnosis can be made with very great accuracy. But in many of those cases, like the one presented to-night, I believe it is not an easy matter to be sure of a diagnosis. I feel sure that Dr. Baldwin and Dr. Jewett are right in regard to the amount of pain and suffering that may arise from a diseased appendix, when the disease is apparently trivial in its character, when there are no adhesions, and when the appendix is not very greatly distended, and when there is no decided accumulation of pus in the appendix. I base my views on that subject on a number of cases of the kind which I have seen.

I remember a case that I saw in consultation with Dr. Rand, a young lady, a splendid case for physical exploration, because she was spare and her alimentary canal not distended, and we thought that we could feel an appendix. There were evidently no adhesions; it seemed to be quite movable, and yet she had had violent attacks of pain of a colicky character, and some temperature at times; but she was very nearly disabled by repeated attacks, and we decided it would be wisdom to operate. Dr. Rand did so, and removed an appendix that was not more than two inches in length, not more than a quarter or three-eighths of an

inch in diameter, and on laying it open there were two hard masses in it, of what I do not know. There was very little active inflammation, indeed, not any active inflammation at the time of the operation. It was a case, then, where the suffering had been great, and where the tenderness was at the proper point, and where there was no doubt in our minds that there was trouble there, but the pathological conditions were not nearly so marked nor so important as the history would have led us to suppose.

Another case that illustrates this more forcibly still: A gentleman who had had five or six attacks of acute appendicitis. He went to Europe, and while there he had a violent attack. He had been advised several times and urged to be operated upon. When he had the attack in Europe he was again urged to be operated upon, and said he preferred to come home in case he could get over that attack. He came home, and I operated and found an appendix that was about as thick as a medium-sized index-finger, less than two inches in length; no inflammation of the peritoneal covering or any portion of the peritoneum surrounding anywhere; in short, there was no evidence of any inflammatory action outside of the appendix. The appendix was removed and was found to contain a little pus and a considerable sero-mucous material, and yet his attacks were very violent, every one so much so that we did not expect him to recover without an operation.

I might mention more cases, but these are sufficient to show that we may have very decided suffering, such as to lead us to an unmistakable diagnosis, with very little trouble with the appendix to account for it. And these are the cases where we have to rely very largely on the history for a diagnosis.

Dr. William H. Skene presented a specimen of abdominal pregnancy.

Mrs. C., aged forty-one, born in Ireland; been married seven years.

Began to menstruate at fifteen, always regular as to time, flow lasting seven days, rather profuse in amount.

September 2, 1897, patient should have menstruated, but had just a slight show; did not menstruate in October, and on the 3rd of November was seized with pains in the left ovarian region; the pain continued till two o'clock the next day, when she began to flow; the flow was rather scanty; would continue for a day, then stop, and return. This condition kept up for two weeks, when it ceased entirely.

Patient consulted me for the first time in December, 1897, and from the above history I supposed she had a ruptured tubal pregnancy.

On examination I found the uterus enlarged and fixed, the cervix soft; there was great tenderness, and considerable exudate surrounding the uterus, which made it impossible for me to outline it distinctly, so could not confirm the diagnosis.

I ordered the patient to remain in bed, using hot douches, also ichthyol tampons, and after a short time the patient got great relief.

I examined the patient again in January and found the softening of the cervix was more marked. The uterus seemed larger. There was the dusky hue of the vagina and considerable nausea, and from the above I made a diagnosis of intra-uterine gestation.

The patient improved and was doing nicely till April, when the urine became very scanty, her feet and legs began to swell; there was considerable edema of the abdominal wall, so that it would pit on pressure. Examination of the urine showed that it contained 50 per cent. albumin.

I put her on a milk diet, had her drink freely of lithia water, and during the next twenty-four hours she passed seven quarts of urine.

On February 7th she felt life. The fetal movements were well marked up till the first week in June, when they ceased.

Very shortly after there was rapid diminution in the size of the tumor, and I thought then that the tube had ruptured, that the fetus had escaped into the abdominal cavity and developed there, and that I had an abdominal pregnancy instead of an intra-uterine.

Then the question came up when to operate. I thought as long as my patient was comfortable, and that the fetus was doing no harm, I could afford to wait, and at the same time get my patient in better condition for the operation.

Operation was done October 9, 1898, assisted by Dr. Baldwin. The anesthetic was administered by Dr. Erdman.

The abdomen was opened, and after carefully separating the adhesion of the abdominal wall, the sac was opened.

I then simply removed the child, and tied the umbilical cord, leaving it outside the abdominal wall; then packed the sac with strips of gauze, introducing a large gauze drain in the center. I then closed the upper and lower ends of the wound.

The only opening into the peritoneal cavity was at the upper end of the abdominal incision, at the point of cleavage, between



the anterior abdominal wall and fruit-sac. This was at once closed with fine catgut.

The placenta was located in the right iliac fossa. It had shriveled after the death of the child, so that it was deemed best to leave it to be disposed of.

After the patient was back in bed her pulse was rather rapid. She was then given a two-per-cent. saline enema, one pint every two hours, for the first twenty-four hours. Then every four hours for the next twenty-four hours.

At the end of forty-eight hours her temperature went up to  $103^{\circ}$ . The dressing was then removed and the sac washed out with saline solution. This was repeated three or four times a day.

The first part of the umbilical cord came away five days after the operation; in sixteen days the second part came away. The drainage was kept up for twenty-five days.

Convalescence was uninterrupted, and four weeks after operation the patient was able to be up and attend to some of her household duties.

#### DISCUSSION.

Dr. Jewett: I would like to ask how long the child had been dead, and also how long before the placenta came away?

Dr. William H. Skene: The placenta was left in. It was left there to be absorbed.

The child died in the first week in June, and it was then the patient had the hemorrhage from the nose and uterus.

Dr. Matheson: I would like to ask what the advantage was in leaving the placenta?

Dr. William H. Skene: It was impossible to remove it.

Dr. Jewett: The history does not state whether or not it was possible to map out the fetal parts; that is frequently possible even after the death of the fetus. In this case the child was molded into so compact a mass that the members could not readily be felt, and the mass might easily be taken for a neoplasm.

Among the most reliable points in the diagnosis of these cases are those which pertain to the history. The history, if it can be well made out and is carefully weighed, is of very great assistance.

Softening of the uterus, such as existed in the case reported, is a valuable diagnostic point. Softening to the degree observed in the third or fourth month of pregnancy can scarcely occur in any other condition. Unfortunately, this softening is not always

present, and it is not always available for diagnosis, therefore. The uterus usually becomes comparatively firm in consistence after the expulsion of the decidua.

The treatment of the placenta which the Doctor pursued is a very safe one, except for the putrefaction which follows. But with care not to introduce further infection, the putrefaction is easily taken care of. The placenta in a case similar to this in my own practice, came away on the twelfth day.

I think there is no danger of hemorrhage from immediate removal of the placenta after the child has been dead two or three months, since the vessels are pretty well occluded by that time. In the case I referred to, the placenta was attached to the colon, and so firmly that to peel it off would apparently have made a window in the colon, and for that reason it was left.

Schauta of Vienna has operated in several cases at term by making an incision through the peritoneum, over the anterior surface of the tumor, and removing the entire fruit-sac through this opening. He first, however, ties the vessels on both sides. If the ovarian artery can be reached inside and outside and tied, that is usually sufficient. The uterine artery can also be tied if necessary.

The method generally adopted at term is to remove as much of the sac as possible without disturbing the placenta, close the rest, and close the abdomen. A subsequent operation may be necessary for removal of the placenta, but frequently it gives rise to no trouble.

Dr. A. J. C. Skene: I have no hope of adding anything to the history of the case and the remarks of Dr. Jewett, but I would like to express my gratification at the remark made by Dr. Jewett that a diagnosis by physical signs is not at all times easy. I excuse myself for making mistakes in diagnosis in such cases on the ground that I have not been keeping up my obstetric practice or study of the subject. I believe that I have had the honor of being mistaken in almost all of the cases of abdominal pregnancy that I have seen, and as it is sometimes of value to acknowledge our failings as well as to speak of our successes, I may say that I saw a case some years ago where the diagnosis had been made of extra-uterine pregnancy by those competent to do so, and while examining the case the fact occurred to me that it might be something else, and yet I fancied that I could map out some of the members of the child, and so was only too glad to agree to

the diagnosis that had already been made. On operating it was found to be a pedunculated fibroid.

To pass over some cases and come down to the case in question, I believe that I saw this case a short time before it was operated upon. And, trying to take advantage of my past experience with the former case just mentioned, and some others that I had seen, I positively insisted upon this being a fibroid, for I could make out the nodules and dense structure, but nothing that I could believe to be a portion of the child. And so I gave that diagnosis and very heroically stuck to it. This specimen is here to condemn me, and I cannot very well go back of the returns.

That is all that I dare to say about the diagnosis, and I feel better since Dr. Jewett has said that physical signs are not always diagnostic, especially in a case like this.

With regard to the management of the placenta, that is a matter of very great interest to me, and I can only say that I have been very much pleased with Dr. Jewett's remarks upon that part of the subject. The question that occurs to me is whether the Doctor was wise in his delay when he was satisfied that the child had died. I suppose it died without his having an opportunity to propose an immediate operation in the hope of saving the child. Perhaps the Doctor would argue that, on account of this renal trouble, which he had managed to tide her over, and her improved condition, he was justified, and I presume he was, in waiting as long as he did.

With reference to the changes that take place in the placenta after the death of the child, I am inclined to think that the life of the placenta goes on, and, indeed, if death occurs before the end of the term, it may go on growing. But when it does not do so the circulation ceases, and I have an idea that it undergoes some change, fatty it may be, and there may be some absorption, and I presume it is quite possible to leave the placenta there and never hear from it again, that it may disappear entirely or shrivel up so as to give no further trouble. If that is a fact, then it would not be necessary, and I presume it is not necessary, to do a secondary operation in many of those cases.

One word more in reference to the immediate removal of the placenta. I think that must depend somewhat on its position. In the case related by Dr. Jewett, where he was confident that he could not separate it from the colon, I think that it would have been unwise to undertake its removal. Again, I am not sure but that it would have been a little dangerous to have tried to remove

it from the case under discussion, because it certainly was implanted over the iliac vessels and the ureter, and the tissues covering these must have undergone a decided change, and I think it would have been a risky matter to have endeavored to remove it. I think there would have been danger of wounding the iliac vein and very likely of damaging the ureter, so I think it was justifiable to leave it where it was, especially as the operator can go back if necessary.

Dr. L. Grant Baldwin: I want to congratulate the reporter of this case on its recovery. This is the third that I have had the privilege of seeing in the practice of other men, and it is the only one that has recovered. I think there are some points in the history that can be dwelt upon and, to a certain extent, make plainer the difficulties that were encountered.

In the first place the patient was forty years old, married seven years, and never had been pregnant before. She was very large, and I believe weighed over two hundred pounds—just the sort of a woman that does not usually get pregnant. The doctor was perfectly justified in making the diagnosis of extra-uterine pregnancy, and later he was more than justified in changing his diagnosis to intra-uterine pregnancy. To go back and take the history all over again: a woman who had always flowed from seven to ten days, and always freely, and with more or less pain, I think that under these conditions the diagnosis of fibroid, after the death of the child, was almost certain to be made.

The history states that the fruit-sac after the child was out collapsed, and it was impossible to tell where the placenta was attached; it may have been over the small intestine, and undoubtedly covered the iliac vessels and the ureter. Indeed, it was very difficult to get at the edge of the placenta if one had undertaken to remove it.

Dr. William H. Skene: I might answer Dr. Skene's and Dr. Baldwin's questions by saying that I thought, as I stated in my paper, it was extra-uterine until after the child died. And I may state that Dr. Skene was correct in his diagnosis, as I saw the patient and examined her thoroughly to-day, and she has a fibroid in the uterus.

## HISTORICAL DEPARTMENT.

CHAUNCEY LEEDS MITCHELL, A.M., M.D.

I take pleasure in presenting the life-like work of our colleague, who was respected by the medical profession for his upright character and honesty of purpose, who devoted his life to assist those who were unable to assist themselves, and gave his advice and assistance to provide means to educate the student of medicine, that he might thereby be able to better fit himself for the work of a physician.

Dr. Mitchell was born in New Canaan, Conn., on November 30, 1813, and died in Brooklyn, N. Y., May 8, 1888. His father, Minott Mitchell, and his mother, Eliza Leeds Silliman, were both of Connecticut.

He was prepared for college in New Canaan Academy, Conn., and entered Union College in 1831, receiving the degree of A.B. in 1833 and A.M. 1836. The study of medicine, under the direction of Prof. Joseph Mather Smith, M.D., of New York, commenced in 1833, in which year he entered as a student in the College of Physicians and Surgeons, New York, receiving the degree of M.D. in 1836. A year as interne in the New York Hospital was followed by two years of post-graduate study in Paris. He returned in 1839 to New York city, where he remained in private practice until 1843, in which year he came to the city of Brooklyn, remaining in practice until his death.

The record of his fifty years of practice is one which adds luster to our profession and honor to his name, having been called upon to fill the following positions:

Professor of Obstetrics and Medical Jurisprudence, Vermont Medical College, Castleton, 1842-'45.

Member of the Council, L. I. C. H., 1860-'88; member of the Board of Regents, L. I. C. H., 1878-'88.

Physician—Brooklyn Dispensary, 1846-'50.

“ Northern Dispensary, New York city, 1839-'43.

“ Brooklyn City Hospital, 1845-'50.

Consulting Physician, L. I. C. H., 1876-'88; St. John's Hospital, Home for Aged Men, 1880-'88; St. Mary's Hospital, 1866-'88.

Medical Examiner, Home Life-Insurance Company.

His connection with medical societies illustrates the activity of his nature, and was as follows:

Medical Society of the County of Kings, 1845-'88; Censor, 1845-'46-'47, and 1856-'7; Vice-President, 1857, and President during the years 1848, '58-'59.

New York Academy of Medicine, 1847-'88.

Brooklyn Pathological Society, 1871-'88.

American Academy of Medicine, 1879-'88.

New York Physicians' Mutual-Aid Association; New York Society for the Relief of Widows and Orphans of Medical Men.

Kings County Medical Association, 1887-'88; Delegate to the American Medical Association, 1846 and 1860.

Life-member and Trustee of the Long Island Historical Society.

His contributions to medical literature from 1860-'65 were: "Ergot in Spermatorrhea," "Atelectasis Pulmonum," "Bladder, Irritability of, During Pregnancy," "Treatment of Hemorrhoids," "Pertussis," "Pleurisy with Effusion," "Ptyalism."

"Effect of Ergot in Congestion of the Male Genital Organs."

"Labor Complicated with Disease of the Heart."

In 1843 he married Miss Caroline L. Langdon of Castleton, Vt.; in 1857, Frances E. Wright of Rome, N. Y., and in 1875, Kate M. Van Cott of Brooklyn, N. Y. His children were the Rev. Charles L. Mitchell, and a daughter, the wife of John D. Rushmore, M.D., of this city, who died a few years ago.

WILLIAM SCHROEDER, M.D.,  
Sec. of Hist. Com.

## BROOKLYN MEDICO-CHIRURGICAL SOCIETY.

The reason for the organization of the above-named society is the same that is usually offered, want of harmony, or inactivity, in the older societies. J. H. Hobart Burge, M.D., located in the city of Brooklyn in 1855. The Medical Society of the County of Kings was the only medical society in existence, in this section of the city, but at this time its members met quarterly. Dr. Burge felt that medical men should come together oftener, and issued a call to a number of physicians to meet at his office, 138 Duffield street, to consider the advisability of forming an active medical society. The result of this meeting was the organization of the above society on November 10, 1856.

The society was duly organized, in Duffield street, the name of

which it received in honor of Dr. John Duffield, a surgeon in the Revolutionary War, who practised medicine in the village of Brooklyn until his death in 1798.

During the ten years that the society had an existence in this city, it included fifty of the most active physicians as members, many of whom were connected with the different hospitals of the city, and in a position to present a great many specimens at the meetings of the society, so much so that the society, partook largely of the character of a pathological society; this work continued until 1866. During this year the Medical Society of the County of Kings resumed active work, which made it unnecessary to have two medical societies in this section of the city. The members of the Medico-Chirurgical Society simply transferred their field of active work to the County Society.

The first President was Andrew Otterson, M.D., who held the office from 1856-'59.

He was followed by Joseph B. Jones, M.D., in 1860. Dr. Jones is a graduate of the College of Physicians and Surgeons, New York, in 1855, and is still in the practice of medicine in this city. He was Health Officer from 1860-'63 and 1864-'66; Coroner of the County, 1869-'74; member of the Medical Society of the County of Kings, 1860-'76, and the last President of the Brooklyn Medical Society, in 1857.

Daniel Ayres, M.D., LL.D., followed as President, during the years 1861-'62-'63. He was born in Jamaica, L. I., on October 6, 1822, "a year that marks the birth of our County Society." He was prepared for Princeton College, from which institution he was graduated, A.B., in 1842. Wesleyan University conferred upon him the degree of LL.D. in 1856.

He commenced the study of medicine at the Castleton Medical College, Vermont, completing his studies at the University of New York, receiving the degree of M.D. in 1845. During the years 1844 and 1845 he was interne in Bellevue Hospital, and commenced private practice in the city of Brooklyn in 1846, continuing in the active practice of his profession in this city until his death, January 18, 1892.

During his long and active service in the practice of the healing art he ever maintained that dignity of character and honesty of purpose which go to make the true man and physician.

In 1848 he was Surgeon of the Fifth Brigade, Thirteenth and Fourteenth Regiments, New York, and from 1861-'65 Surgeon, New York State Volunteers.

Surgeon to the Brooklyn Hospital, 1846-'53 and 1892.

Surgeon to St. Peter's Hospital, 1864-'70; Consulting Surgeon, 1870-'92.

His greatest work was in connection with the Long Island College Hospital. He was one of the founders, his active co-laborers being Louis Bauer, M.D., F.R.C.S., and John Byrne, M.D., LL.D. He was Surgeon to the hospital from 1858-'60, and elected the first Professor of Surgery in 1859, and Professor Emeritus of Surgical Pathology and Clinical Surgery, Long Island College Hospital, 1874-'92.

In the history of Bellevue Hospital, published in 1893, Dr. Daniel Ayres appears as Professor of Surgery, Long Island College Hospital, 1858-'74. This is simply a mistake, in so far as the dates are concerned. His connection with medical societies was as follows: Medical Society of the County of Kings, 1845-'92; Censor, 1847.

American Medical Association, New York Academy of Medicine, New York Pathological Society, Medical Society of Berlin, Medico-Chirurgical Society of Brooklyn, N. Y.

His contributions to surgery have been:

"Treatment of Membranous Croup by Tracheotomy," 1852.

"Successful Treatment of Tetanus," 1852.

"Successful Reduction of Complete Dislocation of the Cervical Vertebrae," 1852.

"Contributions to Surgery," 1857.

"Congenital Exstrophy of the Urinary Bladder and Its Complication Successfully Treated by a New Plastic Operation," 1859.

"Operations for Artificial Anus."

"Trepanning the Skull for Reflex Epilepsy."

"Lymphomata in Anterior Mediastinum," 1881.

"Reminiscences of Tracheotomy."

"Croup and Diphtheria," 1881.

"Several of the above papers were reproduced in Hamilton's, Gross', and Erichsen's "Systems of Surgery"

His bequests to Wesleyan University and Hoagland Laboratory are well known.

John Henry Hobart Burge, M.D., followed as President, in 1864-'65. He was born in the village of Wickford, North Kingston, Washington County, R. I., August 12, 1823. In 1844, at Wickford, R. I., he commenced the study of medicine under the preceptorship of Drs. William Gorham and William Allen Shaw.



which were continued at the University of the City of New York from 1846 to 1848, graduating M.D. in that year.

His post-graduate studies were conducted by Professors Darling and Aylett, and at the New York Hospital under Professors Post, Reid, and Watson.

Dr. Burge's private practice commenced in New York city in 1848. In 1849 and 1850 he conducted a private hospital at Sacramento, Cal., and in 1851 to 1855 in New York city, coming to Brooklyn in 1855, where he is still in the active practice of his profession.

During the fifty years of professional life he has been connected with the following:

Physician, New York Dispensary, 1852-'54.

Physician, Brooklyn Central Dispensary, 1858-'63; Consulting Physician, 1866-'76.

Consulting Physician, Brooklyn Contagious Disease Hospital, 1863-'70.

Consulting Physician, Sheltering Arms Nursery, 1870.

Visiting Physician, Long Island College Hospital, 1863-'94.

Consulting Surgeon, Long Island College Hospital, 1894.

Consulting Surgeon, St. John's Hospital, 1872.

Consulting Surgeon, Lucretia Mott Dispensary, 1882.

Member of the

Brooklyn Medical Society, 1856-'57.

Medico-Chirurgical Society, Brooklyn, 1857-'66.

Medical Society of the County of Kings, 1859; President, 1870-'71.

Long Island College Hospital *Journal* Association, 1868-'75; President, 1870-'71.

Brooklyn Pathological Society, one of the organizers, in 1870.

Medical Society, State of New York, 1876.

New York Society of Medical Jurisprudence.

New York Neurological Society, Vice-President, 1876.

Alumni Association, University City of New York, Vice-President, 1896.

His contribution to medical literature has been as follows:

"History and Mechanical Treatment of Fractures of the Femur," 1890.

"Treatment of Fractures of the Patella," 1884.

His apparatus for the treatment of these fractures was presented in 1868 and 1880.

"Hygienic Influences," address before the Medical Society of the County of Kings, 1868.

"The Relations between Physician and Apothecaries," 1870.

"A New Ether Inhaler; Remarks on Sulphuric Ether," 1889.

"Anesthesia, Apparent Death; Resuscitation and Medical Ethics," 1891.

"Points of Election in Laparotomy, after Wounds of the Abdomen," 1893.

To these may be added "A Throat Forceps," "Post-Mortem Needle," "Obstetrical Forceps," "Dilating Strictures in the Urethra, Curved and Straight."

Henry James Cullen, M.D., was the last President of the Society, in 1866.

Biographies of Andrew Otterson and Henry J. Cullen appeared in the BROOKLYN MEDICAL JOURNAL in 1897 and 1898.

WILLIAM SCHROEDER, M.D.,

Sec. of Hist. Com.

## COMPLIMENTARY DINNER TO DR. FOWLER.

A complimentary dinner was given to Major George R. Fowler at the Montauk Club on the evening of February 24th, by about sixty-five of his medical associates. The subscribers were limited to the chiefs of the various hospitals and to members of the Brooklyn Surgical Society.

The colors of the dinner were red, white, and blue. A six-pound shell adorned each of the three tables, and specimens of the side-arms and rifles used by both armies in the late war surrounded the speaker's table.

Dr. L. S. Pilcher presided during the post-prandial exercises and, after a very thoughtful and happy speech, introduced the guest of honor. Dr. Fowler was received with much enthusiasm and most delightfully and eloquently entertained his hearers with a short account of his experiences during the Spanish-American war.

Doctors J. P. Warbasse, J. C. MacEvitt, H. P. de Forest, Henry Wallace, T. B. Spence, V. L. Zimmerman, A. H. Bogart, and H. D. Cameron, who served as assistant surgeons in the war, were present as guests of the committee of arrangements. Dr. Warbasse responded in a most felicitous manner to the toast: "Experiences

of the Assistant-Surgeons in the Late War." Exceptionally eloquent responses were also made to toasts by Dr. Truman J. Backus, General McLeer, Dr. John Harrigan, and Mr. John A. Taylor. Dr. Fowler was welcomed and congratulated by all of the speakers, and was assured that the medical profession deeply appreciated his service to our nation and to our flag.

COMMITTEE OF ARRANGEMENTS.

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LOUIS BAUER, M.D., F.R.C.S.

Dr. Bauer was born at Stettin, Germany, July 16, 1814, and died in New York, November 5, 1898.

He received his early education in the public schools of his native town, and graduated at the University of Göttingen, 1832, in the class with Otto Von Bismarck.

He began the study of medicine in the University of Berlin, where he remained from 1834 to 1838, when he graduated. He subsequently went to England, and graduated at the Royal College of Surgeons in 1852. Previous to going to England, he filled several important positions under the Prussian government, and in 1848 was a member of the German Parliament, when he became involved in the political upheaval, and was imprisoned for nearly a year.

In 1849 he went to London, where he resided six years. During this time he took his degree at the Royal College of Surgeons, and married Miss Louise Weiller, by whom he had five children. In 1855 he came to Brooklyn, where he remained until 1868. The thirteen years of his professional career spent in this city were probably the most active years of his professional life. In 1857 he organized the German Dispensary, at 145 Court Street, and became its principal surgeon. The next year, in connection with Drs. Daniel Ayres and John Byrne, he founded the Long Island College Hospital, and, it is said, that through his personal efforts a charter for that institution was secured. He was elected the first Professor of Anatomy and Clinical Surgery, and served as Surgeon to the hospital till 1860.

From 1863 to 1864 he was Health Officer of the city of Brooklyn.

In 1868 he removed to St. Louis, Mo., where he took an active part in the reorganization of the St. Louis College of Physicians

and Surgeons, of which he was made Dean and Professor of Surgery. Here he remained until 1878, when he was made Emeritus Professor of Surgery. He was also Consulting Surgeon to the Female and City Hospital of St. Louis. After thirty years of active work in this city, he retired on his laurels, and came back to New York city, where he died November 5th. In person he was tall and slight, with a florid complexion and sandy hair, and well-marked Teutonic features. He was an irrepressible talker and a man of indomitable energy. He was a prolific writer as well as a fluent speaker, and wrote many papers and lectures on surgical subjects, and was the author of a book on orthopedic surgery, which went through at least two editions, and in which he claims to have originated the word "orthopedic."

HISTORICAL COMMITTEE.

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JOSEPH MOTT TURNER, M.D.

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We desire to record a few facts in connection with one of our associates, who was engaged in the practice of medicine for a much longer period than is allotted to most of us. The subject of this memoir was born on November 8, 1817, at Cazenovia, Madison County, N. Y. His father was Martin Turner, of Coventry, Conn., his grandfather being Isaac Turner of Connecticut; his mother, Clarissa Andrews, also of Connecticut.

On September 26, 1843, he married Sophia B. Cushman, at Manlius, N. Y.; his second marriage on June 1, 1876, was to Caroline Chittenden of Brooklyn, N. Y. The children were as follows: Henry Cushman Turner, M.D., Frederick Martin Turner, Rev. Herbert Barclay Turner, Albert J. Turner, and Florence C. Turner.

Dr. Turner was educated at Vernon Academy, New York, and Hamilton College, graduating A.B. in 1838 and A.M. 1841. The study of medicine was under the preceptorship of Professors Jarvis C. Cross and William H. Richardson, of Lexington, N. Y. He attended lectures at the Medical Department of the Transylvania University, Kentucky, and the College of Physicians and Surgeons, New York, receiving the degree of M.D. from the former in 1841. Commenced the practice of medicine in Vernon, Oneida County, N. Y., and in 1844 came to the city of Brooklyn, where he remained until his death, July 2, 1898.

His connection with the Medical Society of the County of Kings was from 1859 to 1889. He was also an honorary member of the Lexington Medical Society, Kentucky, 1841; Oneida County Medical Society, N. Y., 1841-'43, and Fellow of the American Academy of Medicine, 1880-'89.

WILLIAM SCHROEDER, M.D.,  
Secretary of Historical Committee.

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### NEW BOOKS AND BOOK NOTICES.

*All books received by the JOURNAL are deposited permanently in the Library of the Medical Society of the County of Kings.*

#### A TREATISE ON THE PRINCIPLES AND PRACTICE OF GYNECOLOGY.

By E. C. Dudley, A.M., M.D., Professor of Gynecology in the Chicago Medical College, Chicago. Octavo volume of 632 pages with 422 engravings of which 47 are in colors and two colored plates. Cloth, \$5.00 net. Leather, \$6.00 net.

"Of making many books there is no end," and for this reason, if for no other, even medical books may become a burden. That one, having nothing new, should inflict himself on the medical profession does not, however, apply to this distinguished author. The work is worthy of commendation yet open to criticism.

It hardly seems that so thoughtful and practical an author would cumber his pages with the mention or illustrations of sponge-tents, which long since should have been forgotten. This gynecologist, having had his training in the Woman's Hospital of New York, does not cling to the methods there in vogue, especially in the use of silver wire. In this Dr. Dudley shows an independent spirit. His discrimination as to the selection of sutures in conditions not aseptic is worthy of universal acceptance, and happy will it be for suffering womankind when nothing but absorbable buried sutures and ligatures are used in such conditions.

The discriminations on the operative technic of intraligamentous growths and extra-uterine pregnancy are worthy of careful perusal. Without dwelling on other portions of the book, it may be said with confidence that it reflects credit on its author and the subject of which he treats.

W. B. CHASE.

THE PRINCIPLES AND PRACTICE OF MEDICINE. Designed for the Use of Practitioners and Students of Medicine. By William Osler, M.D. D. Appleton & Co., New York, 1898. Third edition, entirely revised and enlarged.

That the author of this work is an indefatigable student, this volume stands a prominent witness among many other contributions to medical

literature. One is amazed when he looks over the various chapters at the amount of research required to accomplish such a task. He asks, how can a busy man find time for it? It is a lesson to the young men of the day to economize their time and to study. On these two elements the author and other distinguished men have builded noted careers.

When one examines a book of this character he expects to find stamped on its pages the individual views of the author, and in this instance he will not be disappointed. He will be amazed, if not pleased, at the manner in which certain therapeutic measures of the day are brushed aside with a sweep of the hand, as it were. The intestinal antiseptic treatment of typhoid fever is erroneous and based on erroneous views according to this book. Very true if one keeps his telescope on a single object alone. The main object here appears to be temperature, with the involved Peyer's gland occupying a portion of the field. We would suggest a shifting of the instrument and an examination of some other matters which his distinguished brethren have taken into account. He will find later on, perchance, a reason for retracting the following statement: "There is now no excuse whatever for the continued use by practitioners of the term typho-malarial fever, and still less for the falsification of vital statistics by death-certificates signed with this diagnosis. Witness, in answer to this, the experience during the past month with the soldiers!"

We are disappointed at the perfunctory way in which the subject of treatment is handled in this book. We are reminded of the teaching of a certain aged professor, a therapeutic sceptic, who used to dismiss this part of the subject in his lectures with the remark, "treat it on general principles, boys!"

For instance, in the treatment of malarial fever we are told quinin is a specific. We are told to give from 10 to 30 grains in divided doses throughout the day; that it is safer to give at least 20 or 30 grains daily for the first three days and then to continue the remedy in smaller doses for the next two or three weeks. Such is the advice as to the intermittent variety. We have here a very wide margin in dose and method. More care in the latter will economize the former.

In pneumonia we are told, when the disease is fairly established, to use Dover's powder in 5-grain doses, according to the patient's needs, to relieve pain. We have seen cases lately where that advice was followed. We are disposed to think that more space and more explicit directions might be safely employed in dealing with such a subject, and we are the more impressed with the necessity of such directions from the carelessness exhibited in the use of this variety of drugs in the disease under discussion.

We are pleased with this book in the main. It is an able production. It will be valuable as a work of reference, but as we said before, we must request the author to enlarge on the subject of treatment, as it appears to occupy a secondary position in the book; indeed, we fail to find the word in the copious index, except in a few instances. To say the least, that is rather remarkable.

**A COMPEND OF OBSTETRICS.** By Henry G. Landis, A.M., M.D.  
Revised and edited by William H. Wells, M.D. Sixth edition.  
188 pp. Philadelphia. P. Blakiston's Sons & Co.

That this quiz-compend has come to a sixth edition is evidence of its

popularity. As revised by the editor, it represents, in the main, the best modern teaching and is one of the most practical and useful books of its kind. The student who masters the contents of these 188 pages will have the groundwork for a good working knowledge of the subject.

**HUMAN ANATOMY.** By Henry Morris, M.A. and M.B., London. P. Blakiston's Sons & Co., Philadelphia.

This is the second edition of the above-named work and, as stated in its preface, has been enlarged by the addition of valuable material. Most of the typographical errors which were pardonable in a first edition have been corrected. Fresh illustrations have been added and many old ones have been replaced by those which are better.

Attention is called to a review of the first edition, which appeared in the *BROOKLYN MEDICAL JOURNAL* for December, 1893. The second edition has received a more careful editing than the first and the book, which was originally an excellent one, is greatly improved both in matter and in form.

The writer of this comment will bear personal testimony to an effort on the part of the authors to obtain suggestions from those working in the department of medical science of which the book treats. Indeed, he recognizes the adoption of certain of his own views ("An Examination of the Influence of the Iliopsoas Muscle upon the Rotation of the Thigh," *Annals of Surgery*, January, 1894) furnished at the request of the publishers. There still remain in the book some obscure and erroneous descriptions, suggesting a field for original research in even this, one of the most exact of the sciences.

WILLIAM W. BROWNING.

**AN AMERICAN TEXT-BOOK OF THE DISEASES OF CHILDREN.** By American Teachers. Edited by Louis Starr, M.D., assisted by Thompson S. Westcott. Second edition revised. W. A. Saunders, Philadelphia. 1898. \$7.00, cloth.

This book has everything to recommend it. It is made up of the contributions of sixty-five authors who have distinguished themselves in this line of practice. The articles are very full, well illustrated, and go into minute detail as to every phase of the diseases and their treatment. We are greatly pleased with it as a medical and scientific work and an entirely American production.

**A TEXT-BOOK OF PRACTICAL THERAPEUTICS.** With Especial Reference to the Application of Remedial Measures to Disease and Their Employment upon a Rational Basis. By Hobart Amory Hare, M.D., B.Sc. Lea Brothers & Co. Philadelphia and New York.

We have examined this work carefully. We were curious to find out the real meaning of the term "Practical Therapeutics." We discover the book to be divided into several parts, but there are in reality two main divisions. The first deals with drugs and therapeutic measures and foods, the second with diseases. As in his work on "Practical Diagnosis," the

author starts out with the announcement that he proposes to make the way of the physician smooth, broad, and easy by weaving science and practice into so close a network that the foundations of experience may be cemented by the mortar of exact knowledge. The result reminds one of some of the books advertised as "Every One His Own Physician."

We pass over the part which treats of drugs. We do not see anything in it of special merit. On the contrary, the attempt to bring the subject down to the basis of those who desire simply enough knowledge to keep them afloat, while they drift down the stream, has made it exceedingly commonplace.

We can make the same criticism of the dissertation on diseases. Abortion is treated of and some of the recommendations will make the cold chills run down the gynecologist's back. For instance, packing the cervix with sponge-tents is advised if the cervical canal is too small. The whole subject is dismissed in two pages. Abscess is treated of also and this division is adorned with two prescriptions which have the earmarks of the last century. Anal fissure, aneurism, appendicitis are described. We are told not to use milk in the latter condition, because it is apt to cause fermentation. Broths or beef-tea are recommended! We are fortunately warned to remove the appendix, if the attacks are recurrent, in an interval of quiescence. The layman will be delighted to find three pages devoted to "biliousness." Dr. Haig ought to read this production. Something would happen surely when he read that coffee is often the cause on account of its oil. We find this remark, that for some unknown reason caffeine makes bilious headaches worse, particularly if they are due to overindulgence in coffee. Amazing, indeed!

Our old friends, corns, receive due attention with a ready-made formula. Dropsy, also, obtains a four-page space. Eight pages are devoted to the treatment of epilepsy.

This book, in some respects, will amuse a scientific man. Such a man desires a clear statement of the facts which have been arrived at by scientific research. He does not desire a compilation of prescriptions, of which *R Tinct. Cinchon. comp., Tinct. Gentian. comp., Tinct. Cardamom. comp., aa ʒiii* is a sample, for he knows that a ʒix bottle of such stuff will to-day be consigned to the sewer possibly as soon as it arrives from the druggist and almost certainly after the first dose of ʒij has been taken. Give him the facts and if he is in position to use them he will take care of the rest.

The author states in the preface to the sixth edition: "Although the number of copies printed of the fifth edition of this work was almost three times as great as was the case with earlier editions, *they* have been rapidly exhausted."

This statement would indicate that there was a demand for the book.

A MANUAL OF OTOTOLOGY. By Gorham Bacon, A.B., M.D., Professor of Otology in Cornell University Medical College, New York. Aural Surgeon, New York Eye and Ear Infirmary. With an introductory chapter by Clarence J. Blake, M.D., Professor of Otology in Harvard University. In one hand-



some 12mo. volume of 400 pages, with 110 illustrations. Lea Brothers & Co., Philadelphia and New York, 1898.

In preparing this manual the author's especial effort has been in a practical way "to meet the demands of the student," and "to give a sufficiently full consideration to those particular diseases of the ear with which the student and practitioner will frequently meet, to enable them to properly understand the condition and apply the appropriate treatment."

Again, in the preface he says, "I cannot too strongly emphasize the great importance of treating all diseases of the ear in their earliest stages, for thus is insured the best chance of preventing the more serious lesions, such as mastoid disease and intracranial complications," and a striking feature of the book is the very considerable space which has been "purposely allotted to these last-mentioned conditions."

The proof-reader has overlooked a number of small points which will undoubtedly be eliminated from a subsequent edition. The illustrations, while many of them are old friends, are for the most part good.

The general impression of the book, after a careful perusal of it, is that it is well and interestingly written, that its teaching accords fully with the best knowledge of the present day, and that it fully sustains the well-known reputation of the author. We can heartily commend it to the class for which it was written, while every aurist will be the better for having it in his library.

J. E. SHEPPARD.

A TEXT-BOOK OF MECHANOTHERAPY (MASSAGE AND MEDICAL GYMNASTICS). Especially prepared for the use of Medical Students and Trained Nurses. By Alex. V. Grafstrom, B.Sc., M.D. Late Lieut. in the Royal Swedish Army. Late House Physician, City Hospital, Blackwell's Island, New York. With 11 pen-and-ink sketches by the author. New York, O. M. Foegri & Co., Publishers, 1898.

The author follows the system practised by the Royal Gymnastic Central Institute of Stockholm, Sweden. He gives minute directions for the application of massage in the treatment of most of the diseases to which it is applicable, omitting the subject of uterine and ocular massage.

MANUAL OF THE DISEASES OF THE SKIN. By L. Duncan Bulkley, A.M., M.D. Physician to the New York Skin and Cancer Hospital, etc. Fourth edition, revised and enlarged. G. P. Putnam's Son, New York and London, 1898.

This most excellent manual by one of the foremost American authorities has been thoroughly revised and much of it rewritten, with the addition of a large amount of matter relating to many diseases not mentioned in former editions. The experience of the author in the treatment of more than 20,000 cases of skin disease makes him eminently qualified to speak *ex cathedra*.





HENRY J. CULLEN, M.D.



JOSEPH B. JONES, M.D.



DANIEL AYRES, M.D. LL.D



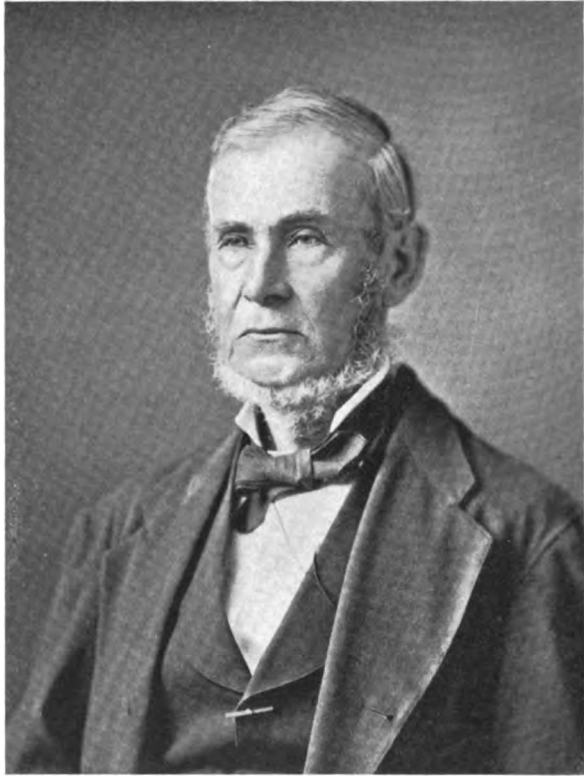
ANDREW OTTERSON, M.D.



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PRESIDENTS OF BROOKLYN MEDICO-CHIRURGICAL SOCIETY.





**JAMES HARVEY HENRY, M.D.,**  
**PRESIDENT OF MEDICAL SOCIETY COUNTY OF KINGS, 1850.**

# THE BROOKLYN MEDICAL JOURNAL

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## ORIGINAL ARTICLES.

No paper published or to be published elsewhere as original will be accepted in this department.

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### CHANGE OF RESIDENCE FOR CONSUMPTIVES.

BY JOHN C. SCHAPPS, M.D.

Pony, Montana.

Probably no question presents to the physician greater difficulty and responsibility than that of advice as to change of residence for persons suffering from pulmonary tuberculosis. It is hoped that the following personal experience and suggestions may help in some instances to solve the question.

In the summer of 1896, while living in Brooklyn, the writer was found to have developed this disease. Preparations to leave the city were at once commenced, but in the few weeks that elapsed before arrangements could be completed, the lesion had made marked advance. Both apices were affected. So progressive was the disease that one of the physicians in consultation advised that only such impedimenta as might be needed for a short stay be taken. Having experienced only disappointment from sending such cases to a mild climate, the writer pitched his tent in Montana, upon the hospitable ranch of a friend, who had left Brooklyn, under similar conditions, thirteen years before, and

had there found health. The altitude was about 3,000 feet, the air was dry, and sunshine prevailed. Far removed from markets, the table was necessarily plain, but included an abundance of the products of the ranch. The home was one of comfort and refinement, and the patient's family was with him. There were no professional or other cares. Even the time-piece, to which the patient had been for years a slave, was at first defied, then put away. The time was of no consequence, and occasionally there was a difference of opinion as to the day of the week. No one hurries in that country. Procrastination is the watchword. The life was one of freedom and leisure, and thus the mental as well as the physical environment was of the very best. The medication was Morson's beechwood creasote 3ss, carnogen 3ss, in a pint of milk, twice daily, and at first strychn sulph.

An immediate and continuous improvement occurred. There was no abatement as cold weather came on. The patient slept under canvas until far into November, when the temperature was fifteen degrees below zero. Then the moisture from the breath condensing into ice-water on the blankets around the face caused such discomfort that he came into the house to sleep. By the first of the following year, five months after leaving Brooklyn, he was heavier than ever in his life. Overalls are the fashionable dress on Otter Creek, and in the absence of a tailor, he found the kind with a bib a convenient device for concealing equatorial deficiencies in wardrobe. He felt well and strong and quite able to resume work. The examination of twenty-five specimens of sputum resulted in the finding of one tubercle bacillus.

He then removed to Colorado and entered upon the duties of medical superintendent of a small hospital. The position involved a large amount of extra-professional work, and innumerable petty cares. The following summer was hot, and sand-storms were frequent and trying. Although as much time as possible was spent out of doors, and the patient did not sleep in the hospital, a gradual loss in weight and strength, and an increase in pulmonary disease, resulted. The number of bacilli was greatly augmented.

August 1, 1897, after a seven-months' residence in Colorado, the patient and his family returned to Montana. While prospecting for a place to practise he was taken, at Pony, violently ill with what proved to be typhoid fever. The temperature frequently reached 105°, and for days the radial pulse could scarcely be felt. Cyanosis was marked. Not the slightest hope of re-

covery was entertained. But every day the patient was carried out into the sunshine and fresh air. Finally, in spite of the strong enteric and pulmonary combination, convalescence began and health gradually returned.

When the patient became able to take his bearings, he found himself in a little gold-mining camp, lying along a narrow gulch, at an altitude of 5,700 feet. It is surrounded by mountains—spurs of the Rockies—covered with pines and firs, and some of them capped with perpetual snow. So well sheltered is it from the prevailing winds that coming into it on a windy day is like entering a harbor. It has a population of five hundred of the kindest people in the world, many of them highly cultured. It is located at the tip of a twig of a branch from a larger branch of a railroad. Twice a week a mixed train saunters up to it with an utter disregard of schedule conventionalities. Here, as elsewhere in the Northwest, there is a complete absence of the deadly rush and scramble of New York.

By the first of the following year, or five months after coming to Pony, the (ex) patient was able to begin the practice of medicine. This involves long rides and exposure to all sorts of weather day and night. But he has been able to meet all demands, and can also point with pride to many a bit of manual work such as falls to the lot of a resident in the far West. Although not so aldermanic as when lolling upon the ranch, he weighs more than he ever did in the East, and is stronger than ever before—and the good work is still going on. Cough and expectoration have almost disappeared. Temperature is normal. He does not know anything about the contents of his chest. They have ceased to interest him. In the year that he has practised here, he has learned the state of health of nearly every one within a radius of many miles. A number of persons who came "for their lungs" years ago, have here enjoyed excellent health. Diligent inquiry has failed to reveal any case of phthisis originating here.

The profession has been slow to recognize the value of a cold climate in the treatment of phthisis. It is natural that the invalid in one of our Eastern cities should shrink from the thought of cold. It suggests New York on a bleak day. But there is really no comparison between the depressing effects of such an atmosphere at, say, +20, and the stimulation of Montana air at zero. Evidence is now accumulating that the mountain resorts are as beneficial in winter as in summer. Both the tendency to general hyperpyrexia and the local process are indications for the use



of cold. So long as the body heat is not too much depressed—and that is easily within control—the inhalation of cold air is a positive advantage. It means, besides antipyresis, more oxygen per cubic inch, less moisture, and sometimes the presence of ozone due to the friction of dry air upon the pine-clad hills. The writer is inclined to believe that for most patients the bracing air of winter fully compensates for the diminished amount of sunshine at that time of the year. He is probably not the only physician who hopes to be forgiven for sending patients South.

But the question of a change of residence is not simply one of climatology, although this must be considered. For, while it seems fairly well established that a high altitude and dry air are *per se* beneficial, and in some cases, perhaps, necessary, the fact remains that cases of phthisis are cured even under the adverse climatic conditions of New York city. A professional friend of the writer cured himself by taking to yachting and spending most of his time on his boat. On the other hand it is reported that the observer at Pike's Peak, Colorado, an altitude of 14,000 feet, there contracted a fatal tuberculosis. (Arrowsmith, *Medical News*, Jan. 16, 1897.) The writer has observed a similar case, that of a conductor on a short railroad running at a high altitude in the same State. These patients succumbed, probably, because of lack of rest, mental or physical. In work or in play, it is the pace that kills. Competition has many victims, and the successful man is not always the real winner, for it is a grim success which achieves a goodly bank account and a ruined constitution. Physical culture properly directed has done much good, but competitive athletics have won for many a damaged heart and a happy home for the bacillus tuberculosis. A febrile condition, or a tendency to it, is always an indication for rest, physical and mental. It is to be hoped that the day of exercises for active tuberculosis has passed. And mental exertion, or worry or discomfort, will elevate a temperature as surely as physical exercise. Anything that involves exertion, or even suggests it, is undesirable.

Recent study has thrown much light upon the nervous element in the development of phthisis (Mays, *New York Medical Journal*, Sept. 25, 1897) and the very first considerations in its treatment should be those which pertain to the patient's state of mind. One reason that sending patients away so often results disastrously is that the new surroundings are not congenial. Some patients are so homesick as to be proof against

the advantages of any altitude or climate. While pulmonary disease cannot be cured by good psychical conditions, it comes near to being true that it cannot be cured under adverse ones. Sunlight and fresh air are possibly as beneficial, because they tend directly to cheerfulness, as because they are destructive to the bacillus. Change of residence, besides bringing into play physical forces healing to the body, may be of great advantage by removing the patient from associations of care and work, and distracting the mind by new and pleasant impressions.

It is in most cases highly desirable for the patient to remove far from the location of infection, and especially to avoid the vicinity of a large city. The drain upon the atmosphere and its pollution by thousands of lungs, fires, and lights, and the addition of other excreta of a large community must necessarily affect the air for a much greater radius than science is at present able to demonstrate. Besides the actual safety of distance, the sense of remoteness from danger brings a feeling of security that has a positive value. And to many a convalescent, proximity to the old home has been like that of the moth to the candle.

The manner of living must necessarily depend upon the tastes of the individual. The advantages of the open-air treatment, even in England, without any especial climatic advantage, have been well set forth by Burton-Fanning (*London Lancet*, March 5, 1898). Living in a tent is certainly, par excellence, the thing for the consumptive, when the season permits. It insures the maximum of sunlight and fresh air. With a board floor and a fly much comfort can thus be secured. And people from the city usually take kindly to such a change. The furniture should include comfortable bed and chairs and favorite articles from home. Newspapers, and especially letters, are powerful to diminish the sense of isolation and prevent homesickness. It is highly desirable that some of the patient's own family be with him. Housekeeping, on however humble a scale, gives greater freedom and comfort than boarding, and saves from association with other invalids. For winter a cabin or cottage is necessary. In those parts of the country where land is cheap and timber plentiful—and they are the best places for the consumptive—a warm, comfortable cabin can be cheaply built. For those who do not care to keep house, board can usually be obtained at a ranch. In a country where every one builds his own home the addition of a room is no great matter.

The writer will gladly give such further information as may be needed to any for whom such a change is advised.

The thought has often occurred to the writer that many of the abandoned army posts of the West would make grand sanitariums for those patients from our large cities who must necessarily be treated en masse.

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### AN IMPROVED REFLUX CATHETER.

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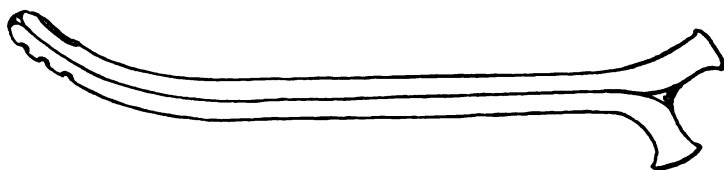
BY VICTOR NEESEN, M.D.

Lately House Surgeon in Professor Martin's Privat Anstalt in Berlin; Recently House-Surgeon in the Woman's Hospital in New York.

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In presenting this simple little instrument to the profession I am aware that there are many catheters in existence very similar to it, and that, therefore, the criticism may be entertained that it is not new. But similarity is not duplication. A close scrutiny of the catheters similar to it will reveal this catheter's superior points.

I contrived this catheter while junior in the Woman's Hospital. One of my duties at that time was to irrigate bladders for cystitis,



The Neesen Reflux Catheter.

and I remember having as many as eight or ten at a time. I used in succession every variety of female catheter made, and then had this one constructed.

I took one to Europe with me when I went, and it was immediately adopted in Professor Martin's sanatorium.

It is made entirely of glass. The circumference is slightly spherical. The channel is divided by a glass septum, making two distinct channels—influx and reflux. The opening at the distal

end of the influx channel is large and single, while the opening in the reflux channel is small and multiple.

The advantages are: A steady flow of water or solution is circulated within the bladder. The stream spouts up to the roof of the bladder, washing down the walls, and returning through the reflux channel.

Pain and distress incident to moving or jarring the catheter in severing the connection of the rubber tube is thus obviated. This catheter can be held rigidly still until the process of irrigation is completed.

The bladder is not distended with a quantity of fluid, which causes pain and certainly does not conduce to the abatement of the inflammation.

The catheter was made for me by Messrs. Stohlmann, Pfarre & Co. of New York.

95 Sixth ave.

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## THE EFFECT OF THE TOXINS OF PATHOGENIC MICRO-ORGANISMS UPON THE PARENCHYMATOUS TISSUES.

BY J. M. VAN COTT, M.D.

Read before the Medical Society of the County of Kings, December 20, 1898.

I am very glad that I was unable to present what I had prepared at the last meeting, for the reason that I have made better preparation now for what I would like to present to you upon this subject. I have, myself, for a long time been interested in the relations between pathogenic micro-organisms and the normal tissues of the body, that being a good chapter of the work which I have the honor to teach at the Long Island College Hospital, and the facts are so startling, and the logic in the facts so closely allied with the course of these cases, with the phenomena, the clinical phenomena, of cases which are running through a course of infection from these organisms, that it occurred to me that it might be profitable to review the facts of recent cytology in connection with the normal tissues of the body and tissues which are infected by the presence of pathogenic micro-organisms

and their toxins, and I have, therefore, selected the subject of "The Effect of the Toxins of Pathogenic Micro-organisms upon the Parenchymatous Tissues."

Now, in order to prove my point, I shall first be obliged to state some facts regarding the "modern cell," as we may call it. When Rudolph Virchow wrote his scholarly and immortal "Cellular Pathology" he was very much handicapped for lack of apparatus and laboratory accessories. He had many ideas, and one which has gotten to be a maxim in medicine, and one which, perhaps, represents one of the profoundest facts, namely, "*Omnis Cellula e Cellula*," that is, that all cells of a given kind originate from preëxisting cells of a given kind; normal muscle cells from muscle cells, nerve cells from nerve cells, and so on through all the elementary tissues of the body. Later, Fleming added to that another when he said: "*Omnis nucleus e nucleo*"; in other words, the body which was found to exist within the cell, and which was called the nucleus, was found to have originated from a preëxisting nucleus. We now know many things besides that. That brilliant work of Fleming has shown us that what we previously regarded as a simple structure, homogeneous, probably, is really a complex affair, and not, by any manner of means, a homogeneous tissue. I show you here a somatic cell; this will give you the actual facts regarding what you might call the modern cell.

Now, in the first place, to define a cell: it is a microscopic mass of protoplasm, with a nucleus, from an anatomical standpoint; and from a physiological standpoint this cell is a mass of nitrogenous material, having some properties which are called vital; and we shall see what these are as we progress in the morphology of the cell.

If you will examine the larger circle within the cell itself, you will see within it those rather black lines; you will note that there are several streaks; that ring, with the streaks contained, is the so-called nucleus of the cell; that nucleus is the part of the cell which probably has the work of subdivision of the cell in all cases. There are some cells which are supposed to be subdivided and increased or multiplied without any action of the nucleus, but as the cytologists get to a knowledge of the subject there seems to be a growing view that there must be within the body of the cell this little mass called the nucleus, and that this is largely instrumental in the division. The nucleus is a very complex structure. In the first place you will see that there are there irregular black

stripes or lines, and these have received the name of chromatin, the reason for that being that they have a capacity for taking up certain kinds of stains, aniline stains, and that class of aniline dyes which are called "basic stains." The reason of that is, that chromatin is a substance rich in an acid called nucleic acid or nuclein, and nuclein is a substance which has been used a great deal medicinally; it is really only the chromatin of nuclei which has been reduced by the chemist, and is a cure for certain diseases. You will notice that between these black lines there are other, much finer, lines—the "linin network"; this is probably oxychromatin; this is a substance which will probably not take the basic or aniline stains, and is a substance difficult to stain at all. If you will look to the upper right-hand corner of this nucleus you will see a ring containing some highly granular material; this is a plasmosome; this part of the nucleus performs some function which is entirely obscure. If you will look below the center of the nucleus you will see a circle or disc, which is called the karyosome or net-knot, and that means that there are expansions in the nucleus of the chromatin in these bodies; around the whole is a fine line, which is supposed to be the capsule.

So much for the general points in the structure of the nucleus; it has, therefore, this chromatin, the oxychromatin, the plasmosome, and the nucleolus, and karyosome or net-knot, and then, between all these, we have what, perhaps, is as yet unknown—the nuclear sap, or the colorless liquid which, under normal circumstances, is present in the interstices of the chromatin.

Around the nucleus is a mass of protoplasm, which is said to be the nitrogenous body, which is rich in nitrogen, and contains sulphur, hydrogen, oxygen, and often some of the rarer metals, all of which go to form, chemically, the body of the cell. You will notice that it is not a simple substance, that it is a network of lines which are not lines, but which are small dots (and that is the spongioplasm), and that it is arranged like the arms of a sponge, and that it is a substance of a denser nature than the fluid between its meshes, which has been called hyaloplasm. Spongioplasm and hyaloplasm are very important structures in the body of the cell, and are composed of the materials which are taken into the body of the cell, and are elaborated by the cell in the course of its activity. Then you will see, as is stated, on the right-hand side of the diagram, some other bodies, which are called plastids; and these are obscure, as to their exact nature, but it is supposed that they are the living pabulum, that they have

been converted from the hyaloplasm, or something which we do not as yet recognize, into something which is vital, just as is the nucleus, and all have a cell-body, and outside of the body of the cell are perfectly normal; then there are black bodies, which are called the metaplasm, and these are suspended in this cytoplasmic reticulum. So much for the cell-body and nucleus. All cells have a nucleus, and all have a cell-body, and outside of the body of the cell we have sometimes a cell-wall, and this is a substance which is probably nothing more than hardened cytoplasm; in other words, the outer portion, or peripheral layer, has become hardened as the skin of the hand hardens or callus forms; the writer Fleming regards this as a thickening of the outer portion of the cell. I will ask your attention to another spherical body, which is just above the nucleus, and contains two black dots; that is very interesting and wonderful, and has a great deal to do with karyokinesis, with the multiplication of the cell; that is the attraction sphere, and the two dots within it are the centrosomes. Now, in the method of the division of cells, the indirect method, which I shall discuss here—karyokinesis or karyomitosis—the attraction sphere and centrosomes appear. You cannot have a division of the cell without an operation of the most beautiful nature with the attraction-sphere and centrosome; as the cell divides, these subdivide, and as the cell multiplies, daughter-cells are given off from mother-cells, and you will find that daughter-centrosomes and attraction-spheres are given off also.

I am going through this for two reasons, the first to prove that the cell is not merely a mass of protoplasm, but that it has within its scope functions which are marvellous, and that the cell is a delicate structure, and may be injured and in some way destroyed by the action of other substances; then I am going over the normal phase of the reproduction of cells because I can show you by experiments which have been made that certain chemical substances will produce an asymmetric growth of cells so that you will get an abortive action of the nucleus which is responsible for the abnormal division of the cell itself. That brings us to the cell itself in the point of subdivision or multiplication. Now, as I have stated before, our capacity to follow these phases of cell growth has been very materially enhanced by our ability to utilize certain dyestuffs; the aniline stains, such as fuchsin, methylene blue, and the extract of logwood, and many others which I might mention, will select the nucleus, so that we have a characteristic color, and we fortunately have other colors which will

select the nucleic acid and give us a "color-picture," whereas the acid stains will take the hyaloplasm and spongioplasm. In other words, the cytoplasm, which makes up the body of the cell, will drink up the acid stain, and that is the method of differential stains; and that is what has made it possible for us to recognize the morphologic elements in the body of the cell and follow the stages of development of the cell. I will pass on, and I will show you here cells which are living; these are from the larva of the salamander; this simply shows you general forms of cells, and illustrates the statement that all contain a nucleus; you will see there the chromatin elements and the shell around the nucleus, the membrane, and around it again the lighter part of the protoplasm; then I will show you some cells which come from the ganglionic system; this from the spinal ganglion; there you see again the granular protoplasm. you have the nucleus, the nucleolus, and the other structures, and yet the form of these cells is different. That brings up another statement, and that is, that these cells have other properties besides the mere form and capacity to multiply; in other words, they have a functional activity; they will explode, they will carry motor or sensory impulses either from or to the great cerebral or spinal centers, whereas other cells will have a definite function of eliminating poisons; and so with the form of a cell comes functional activity, and that is associated with the form; that has been one of the matters which the pathologists have been able to utilize for diagnostic purposes. Here I show you a spinal ganglionic cell, and I do it to give you another illustration of a cell and to prove the point which I made; there can be seen here a nucleus, the chromatin elements within the nucleus, the attraction-sphere, with its centrosomes, and the cytoplasm including the whole. Here again is another illustration of the cell, with all its parts, and will give a little better idea of the chromatin within the nucleus; there you see an extremely beautiful arrangement of chromatin. Above and to the left is a resting nucleus; there is nothing going on whatever; you cannot see it very plainly, but if you look carefully you will see the attraction-sphere almost too pale to be picked out. Particularly down below there is a demonstration of the fact that the chromatin is not a homogeneous mass: some very beautiful facts have been demonstrated regarding heredity in just this connection, showing the characteristics and traits of individuals. It is possible that these are not homogeneous masses, but composed of idioplasm, which contains the



characteristics or traits of individuals, so that the fusion of the spermatozoon and ovum will give a combination influenced by this idioplasm.

Here I show you two nuclei, from the crypts of Lieberkuhn, of the salamander; here you see the chromatin and the oxy-chromatin, and the rings, which are white in the center, are the true nucleoli; here you have a picture of the chromatin elements, which are in the resting state. I dwell upon that because I shall show you directly that these take a most peculiar form as the multiplication of the cell progresses.

I show you some of these pictures, as I want to draw your attention to the changes which will be seen. Here are nuclei in the spirem stage of karyokinesis. Fleming was the man who discovered karyokinesis, and it is due to his patient work on the salamander and onion that it has been shown that the chromatin has a remarkable property, under, probably, the influence of the attraction-sphere and the centrosomes, of becoming split up so as to form "V"-shaped bodies, which you shall see directly, which "V"-shaped bodies play an important rôle in the further stages of the division of the cell.

You will notice that on the left-hand side is a network of this chromatin—that is the spirem or aster, if you please—and you notice that there are some fine lines, which are the "linin lines," and these we know less about than about the chromatin proper. In the central portion you will notice that the attraction-sphere is doubled; in other words, you have two attraction-spheres, and in this you have two centrosomes; that is associated with another very interesting fact, namely, that this spirem is split up into small curves or loops, and that these are double, as we will illustrate more clearly further on. Still further to the right we have a spirem which is split through, and six nucleoli, and others have completely split up and are now absolutely separate from each other. Then I show you, from another plate still more of these; in it you find this splitting of the chromatin, and that is another important fact, for the reason that it is supposed that when the cell divides the two daughter-cells each will contain mathematically equal parts of chromatin; that is a process a great deal nicer in the division of property than we human beings can do, and it is assumed that these mathematically divide into two equal portions, and you notice that the division is in the long axis of the chromosomes.

Here we see a plate which will illustrate two facts. You

will notice on the right-hand side two attraction-spheres below and two above; the second, above, does not show quite so clearly; between these there are fibers, which are bowing so as to give the appearance of a spindle or amphiaster, with two attraction-spheres and two centrosomes, and this is the forerunner of karyokinesis or karyomitosis. The wormlike bodies are composed of chromosomes, which are huddled up together. You have four "V"-shaped bodies, composed of chromosomes, and these are attached to very fine lines, and these fine lines radiate toward the centrosomes; there is a centrosome above and a centrosome below, and that gives to the arrangement of the chromatin a polarity; you have between the two poles, radiating, these lines, which are called the achromatic spindle, and attached to these are the chromosomes; there are many theories as to what that is, but it has been assumed, and with some degree of probability, that the achromatic fibers (those fine lines which take no basic stain), that the fibers have the power of contractility, and it is a very beautiful theory because, as they contract, the chromosomes are carried away from each other and, as this is done, the cell constricts, and you have two new cells, which process has been brought about by the contraction of the achromatic-spindle fibers.

Here we begin to get into another question entirely, and that is, what actually takes place in this karyomitotic process?

We have here a diagram showing what is known as the prophase of karyomitosis; you will observe that in the left upper corner you have a resting nucleus; immediately above it you will see that you have an attraction-sphere, with the two centrosomes, and already each centrosome has divided into two; if you go to the right of that you will see that, instead of having this irregular network of chromatin elements in the nucleus, you have the spirem stage, which I have shown you in another diagram, and in which you have the tendency of the spirem to become split up; you will notice that the amphiaster is already formed, and that you have there the two attraction-spheres, with the achromatic spindle between them. Here you have the two attraction-spheres, and between them the spirem and its chromatic substance; again, you have starting the achromatic spindle in the amphiaster, and below you should find that the chromosomes are locked up in the achromatic spindle; in other words, you have a new amphiaster, with the chromosomes in situ. Again, you will

notice that they are not simple, but that they are split, and that you have a separation into two separate nuclei.

Then we get the metaphase, where you find the equatorial plate, which is an arrangement of the "V"-shaped structures in the center of the achromatic spindle, and that the chromatin is now there exactly equidistant from the attraction-sphere; the membrane of the nucleus or wall, you see, has been lost, and that is the mid-stage. We are now in the mid-stage of the karyomitotic process; here you have a still further advance in the process. Here in the lung-cell you have the chromosomes actually split; you have in the equatorial plate, instead of the single black lines, the double black lines, and this demonstrates that that has taken place of which I spoke, the mathematical subdivision of the chromatin. Here you will find that the "V"-shaped bodies or chromosomes are being borne toward the attraction-spheres; these have become double. Again you see that the chromatin has found its way to either side, or a decided polarity is again established, until from the equatorial plate you have a doubling of the centrosomes and already the commencing of the division of the cytoplasm.

Here you have two complete cells, with attraction-spheres, daughter-nuclei, and resting chromatin; and in this you have the same as you had at the other end, but twice as much; you have the daughter elements exactly like the mother elements, and that has occurred in the phases of the karyomitotic process. Here is a very important thing. . . . I will run these pictures through because they are from different animals, and the conclusions have been worked out by Germans and others. . . . This figure is schematic of the metaphase; there you have the equatorial plate or plane, and there you see the "V"-shaped bodies; you are looking a little slant-wise on this; that is a diagrammatic spindle; on the other side you see the "V"-shaped bodies, which are splitting up, and this chromatin contains all the attributes of the chromatin proper.

This diagram will throw more light on the subject; here you have the two attraction-spheres, with the spindle, and if you will imagine them arranged like a circle within the spindle you have the whole thing.

I would call your attention to the fact that these "Vs" are united there by threads of the achromatic spindle, and these are the contractile fibers of the achromatic spindle; these will contract and draw away the chromosomes, which are attached to the

ends of the spindles; the other picture is looking down on the equatorial plane.

Here, as before, you will see the various phases in a much coarser way, and there is a very beautiful demonstration of the relation of these in the later phases of the division of the nucleus; you will see that here they have been turned in another direction and are being turned up toward the attraction-sphere. At one point you will see that they have reached the attraction-sphere and have polarity, and the cell is going to split into equal parts. This figure represents the last stage.

Before we go further, on the body of the cell, I want to call your attention to some very remarkable things; it has been shown by observation that there are certain chemical substances which will produce asymmetrical karyomitosis. . . . This is a tissue showing all phases of karyomitosis: the resting cells, cells in the spirem stage, and cells which are emerging from the equatorial plate and which are becoming polarized and forming separate cells.

. . . To return to what I was about to say. It has been shown that there are some toxic substances which will inhibit this process of karyokinesis, or, rather, to use a more correct term, perhaps, not inhibit, but will prevent the process being carried out properly. If you will look at this diagram, a polyspermy in the egg of ascaris, you will see that there are three spermatozoa in the egg, and that pathological fact—that more than one spermatozoon is present—has given a result in the development in which you will get a cell division which is abnormal.

Here is one which has been treated with a .005 per cent. nicotine solution, and here you have a diversion from the normal process of karyomitosis; to the right, instead of having one amphiastr, you have five; you have five in one part and two more in another; away up in the left you find that there is an absolute irregularity—that there is no polarity—three at least in one line and one at the side. You will see that such an occurrence as that might be due to the presence of a poison, as well as to other causes. These matters have been worked out by Oscar Hertwig, Fleming, Hoffman, Schenck, Voldi, and other men, who have spent their lives in this work.

Here you have karyomitosis in the case of cells of the salamander treated with .05 per cent. antipyrin solution. I call your attention to this because antipyrin has been used to reduce temperature, and here is a practical demonstration of the

effect which its presence in the system might be able to produce—an asymmetric karyomitosis. At the side of this you have a cell which was treated with a .5 per cent. of potassium iodid, showing the absolutely lawless growth of the chromatin and the separation of the chromatin and the aborted formation of the cell. The same has been found by Oscar Hertwig in the use of quinine, and he can produce by quinine the same asymmetric karyomitosis in living cells.

Here I show you a very interesting diagram in the human cancer-cells, by Hansemann, and since him others have worked over the subject; in the cancer-cell one of the evidences of malignancy is found to be this pathological mitosis; here you see an irregular and lawless arrangement of amphiasters and attraction-spheres, which is responsible for the peculiar growth of cancer-cells and their irregularity. This has come to be regarded by the best pathological diagnosticians as pointing to the conclusion of malignancy or non-malignancy of the tissue hyperplasia.

So much for the nucleus; there are other things which can be said of toxins and their effect on cells; I do not purpose going into the question of toxins *per se*, for the reason that there is one present, Dr. Bartley, who can say much more about toxins than I. What I can say and what I shall prove is that toxins introduced into the body and cells in the presence of toxins will show most remarkable changes in the cytoplasm, changes not restricted to the nucleus, but which will involve the cytoplasm as well.

Here I show you a kidney which has been infarcted, and which is the seat of a septic infarct, and here you have a characteristic condition known as coagulation necrosis; that is a term which means that these cells are dead and turned to clay, and that they have broken down and have become hyaline; afterward they become masses of broken-down chromatin elements and cytoplasmic elements. To the right side is the infarct, and to the left you see the kidney cells in a fair state of preservation.

Before going further into the subject of toxins in the presence of the cytoplasm it will be well to say one or two things about the nature of cytoplasmic degeneration. There is one form of cell degeneration which is known as cloudy swelling, in the course of which the cell becomes larger than it should be, and has many more granules than it should have, and in which the cell is dull; that is a condition which is ever present in any form of intoxication whatever, and I am inclined to include alcohol. The bacilli of tetanus, streptococcus, and other forms of pathogenic organ-

isms, cause temperature, and in every case where you have temperature you will find the cytoplasm the seat of this change (cloudy swelling), and in this change you have largeness of the cell and nucleus, granulation of the cell, and most certainly a change in the function of the cell; the function must be modified when the form of the cell is changed, and in the study of the organisms it has been found that the organ for which the toxin has a special affinity will be attacked more than any other organ. I show you here a kidney which has been the seat of an intoxication in typhoid fever. Anybody familiar with a section of the renal tubule in the cortex will not doubt for a moment that these cells are very much distorted. In the upper right-hand corner the cells have swollen so as to materially limit the lumen of the tubule; you will get this in the failure of the kidney to functionate as it should. You will certainly get that of which the proof is here before you, that these cells have undergone coagulation necrosis. Here is an explanation which expresses the facts, to my mind, and I am sure that I voice the thought of the modern pathologists. Here we have an immensely compromised functional activity. Those cells to the left side of the picture have become totally necrosed; they have undergone total necrosis, a term which means a breaking down; the nucleus is gone, the structures with the nucleus, the attraction-spheres, the centrosomes, all have gone, and these cells are dead and have no further capacity to act. In the left-hand side, lower corner, you have another section of renal tubule which has undergone this same change.

I will draw your attention to the fact that the interstitial tissue, or stroma, is not markedly affected; you may get a certain amount of small round cell infiltration, because you have the phagocytes getting out into the connective tissue; the real change has occurred in the parenchyma, and that is why I selected the subject, because, with these toxins, you get a change in the parenchyma. Sometimes it is in the circulatory system; there are cases where you have muscular degeneration, and where, for instance, in the case of the heart, you get a failure of the muscle (myocardial) cells to contract, and the force of the heart goes, which is able to keep the tissues alive.

Here I show you a picture of the periphery of a lymph-node in a case of typhoid fever; first you see that the lymph cells have increased, and you have a lymphocytosis, and you have in the lymph spaces a very marked phagocytosis, and this phagocytosis is a common occurrence in the course of intoxication. There is

another form of degeneration of the cell, in which the cytoplasm becomes perfectly homogeneous, and this is known as hyaline degeneration, a condition which Zenker first described in typhoid fever; you know that the abdominal recti are in some cases ruptured, and he examined many sections of these muscles, and found that there was a total destruction of the sarcous elements and complete hyaline degeneration of the muscle fiber.

I will show you the last two slides which are photographs or photo-micrographs, which I took myself from some guinea-pigs' kidneys, which Dr. Wilson killed in the course of his standardization of diphtheria toxin. These were inoculated or injected with certain solutions of the toxin, and in the course of a certain number of hours they died. This is not a plate from a book, but it is an actual fact; you have a photo-micrograph of the actual tissue, and you will see here the tubes, which are running downward, and you see the nuclei; you see only a few cells, which are outlined; below the center you will see one which is slightly outlined, but otherwise you will see that the cells have become swollen, that there are many granules which have no business there; here and there you will see phagocytes and small leucocytes which have gotten out of the blood-vessels.

Here is an actual picture of the tissue from an animal injected with this toxin, and it has given us a very marked form of parenchymatous degeneration of the kidney.

Here is the kidney of another pig, which did not die as rapidly as the other, the result of which is that you have a somewhat different parenchymatous change; here you see epithelial casts; these cells have undergone total necrosis, and are tending to become hyaline, but have still retained some of their contour, and that means that you have a process which is less rapid than the process before. Cloudy swelling before and parenchymatous desquamative nephritis in this case, and both are the immediate result of the introduction of this substance into the tissues.

One other remark, and that is, that it cannot be denied or doubted for a single moment that this is a nutrition disturbance, and the more we see and think about them, the more we ponder over the true nature of these intoxications. It must be a nutritive disturbance, for this reason: I show you here a section of liver which has been injected. You see the acini; you see the lobule or lobules; you see the portal system, and you see the vena centralis and radiating intra-lobular capillary plexus; these are numberless, and this will draw your attention to the fact of the ex-

treme vascularity of the parenchymatous tissues; these highly functional tissues are extremely rich in blood-vessels, and if the patient has been inoculated with the toxin, as soon as the toxin has penetrated them they are bound to reach this condition in a very remarkable degree. The argumentum ad hominem is simply this: I personally have come to the conclusion that you cannot expect to go far in the use of antipyrin or any of the similar drugs which have been given to reduce temperature without adding fuel to the fire, which I have shown you here will inhibit cell-mitosis, and other experimenters have shown that changes will occur in the use of antipyrin or other coal-tar products. People have died of the use of these things for the relief of neuralgia by taking large doses, and autopsies have been made, and the parenchymatous tissues have been examined, and hyaline degeneration, fatty degeneration, etc., etc., have been found as a result of the use of these coal-tar products. If I have made that point clear, I am satisfied; and if I have proved that there is danger in the coal-tar products of causing the degeneration of the parenchymatous elements, I shall be content.

## DISCUSSION.

Dr. Henry A. Fairbairn: Exact knowledge is always welcome in every department of life. Its efficiency depends on such knowledge. We hear much generalization to-day about various conditions being due to the invasion of microbes. Too often the subject is dismissed with such generalization and the ultimate results neglected. The author of the paper has done a great service in dealing with ultimate results. The demonstration he has given of such results was impressive, and will lead to more careful and, I will say, more skilful treatment of morbid conditions.

The organic change in the cellular elements of the muscular, nervous, lymphatic, and circulatory systems, practically demonstrated to us to-night, is of especial interest to the clinician. It explains to him the prolonged sickness, the prolonged convalescence, the disability, at times permanent, which supervene. He sees, moreover, that another process must arise, secondary to the initial one, from the disturbance of the normal function of the body and the retention of poison normally formed by the system. This proceeds from disassimilation, secreting glands, foods, and putrefaction. It is well to bear this in mind always, that the victim of microbic invasion suffers from two conditions: first, the



effect of the toxin of the invading microbe, and, secondly, from the toxins formed in his own system, the latter being over-produced and partially retained, from interference, by tissue change, with the normal emunctories.

We hear of a febrile condition, often met with, which runs its course in a few days or a week, and sometimes longer, denominated simple continued fever. We are disposed to think, in view of our present knowledge, that this is a misnomer. Look at the causes of the condition; they are fatigue, errors in diet, a chill, etc. We have in them the fruitful sources of nutritional disturbance, a condition which, when inaugurated, will lead to toxemia, and that will explain many continued fevers and many so-called mild typhoid cases. We found the condition in the soldiers of the late war; we applied the term typhoid in some cases with doubt, and post-mortem examinations at Montauk appear to have justified that doubt. Many were proved not to have had typhoid. I am inclined to think the explanation I offer will hold in their case.

Now, what are the indications for treatment with the facts before us as presented to-night? First, kill the microbe *in situ*. The physician is not so successful in that process as the surgeon, but at times he appears to have a measure of success. You are aware of the beneficent results following the generous use of calomel after the ingestion of poisonous food, or where the patient is apparently in the first stage of pneumonia, the threatened process appears to be jugulated at times.

If we fail in killing the microbe, the next thing is to antagonize it and its toxin. Dr. Van Cott has spoken of the use of the coal-tar products with this end in view and some of the alkaloids. There is need of great caution in their use after organic change has taken place. You have seen, and I have seen, the untoward effects following enormous doses of quinine where liver, kidney, and other glands were not acting well from degenerative changes, and where the circulation was depressed from similar changes; the collapse, the cold skin, weakened pulse. Other examples might be cited.

The next indication is to eliminate the poisons. We can do this by cathartics, diuretics, bleeding, and saline infusions. Bleeding is used to-day on a much more scientific basis than formerly. It has been shown that an ounce or two of blood will at times remove sufficient poison from the system to bridge over a crisis. I have seen that well illustrated in my hospital work. We with-

draw a small quantity and await results. Usually the small quantity is sufficient. Again, we are aware of the improved condition which follows occasionally an accidental hemorrhage. It can be explained on the same grounds.

There is another point brought out by this paper. With organic change in the tissues and the secretory powers interfered with the use of the food-products must be limited. Do not overfeed your patients. The digestive organs are ill prepared to handle food, and the organs of disassimilation crippled. At the rate some patients are fed day and night you would think that they had the systems of giants. That they have not, intestinal putrefaction and fermentation and its accompaniments will soon inform you. You may say from the worse condition which supervenes that there is an exacerbation. The patient at times forces the remedy by rejection of food.

Another point: Give food which will leave as little residue as possible, the foci of fermentation, etc. I think that the coal-tar products which are not easily dissolved nor absorbed come in as very efficient measures to prevent these changes. They are efficacious for this reason in the treatment of typhoid fever.

Dr. E. H. Bartley: The paper of the evening opens up a wide subject, and one of great importance in the pathology and etiology of disease. I have been asked to open the discussion on the chemical aspect of the subject. In the outset I may remark that the poisons to which the human body is subject may be classed as:

1. Those fabricated by the cells of the body themselves, giving rise to such conditions as fatigue fever, constipation fever, often spoken of as auto-intoxication, uremia, etc.

2. Those due to bacterial cells, introduced into the circulation or tissues from without.

The specific infections, or pathogenic bacteria, may produce poisons of three classes, viz.:

1. Basic or alkaloidal poisons, generally classed under the term ptomaines.

2. Bodies of a composition similar to the proteids, but having poisonous properties. In some cases resembling the albumoses or the peptones.

3. Poisons of which we do not as yet know the exact nature, and which we content ourselves to call toxins.

When Selmi, Zülzer, Sonnenschein, Neucki, Brieger, and others showed that certain putrefactive bacteria also produced basic products, which could be isolated from pure cultures of

these organisms, it was believed that the poisons of those organisms were always ptomain bases. This idea, however, was soon proven to be erroneous.

It was shown by further study that the bases so separated did not, in many cases, show the poisonous character of the culture media. It was found that proteid bodies could be separated which exhibited far more poisonous properties, and the name of toxalbumin was substituted for the name ptomain, as descriptive of the nature of the poison. This was soon shown to be erroneous, as the purest form of the poison was not albuminous in character, but that it was a poisonous substance that adhered very firmly to albumin, and by improved methods and careful work could be separated from it. The purest form of the poison or toxin that has been prepared does not give all the proteid reactions, although it seems to closely resemble deuterio-albumose, especially in typhoid, tetanus, and cholera cultures.

Hankin, Sidney-Martin, Brieger, and Frankel all agree that the poisonous agent in anthrax cultures is a proteid substance closely resembling deuterio-albumose, and proto-albumose.

While such basis substances as putrescin, typho-toxin, meuridin, and tetanin have been found in pure cultures of the various pathogenic organisms these do not embrace all the toxic properties of the cultures.

Loefer, Roux, and Yersin, and Brieger and Frankel failed to find any active ptomain in filtered cultures of the diphtheria bacillus. Others have met like results with the cultures of other pathogenic bacteria.

Whatever may be the exact chemical character of what we call the toxins of pathogenic organisms, they are probably not basic substances or ptomains. There is some discrepancy in the results obtained by different observers, in their studies of the toxins, but the consensus of opinion seems to be that the toxic agent is a non-diffusible proteid, but not always the same in chemical composition. In some cases the active agent gives the reactions of the globulins, in others of the albumoses, and probably, in some, of the peptones.

As the toxin is usually only known in solution, it may possibly be more than one substance. Sidney-Martin found two active proteids in anthrax cultures. The antitoxins seem to differ in chemical composition from the corresponding toxins. Whether the toxins are converted into the antitoxins is not certain. The antitoxin of diphtheria can be precipitated from its solutions by

copper acetate. while the toxin cannot. Mixtures of these two antagonistic agents may be separated by this means, and it would seem, therefore, that the antitoxin does not destroy the toxin, nor form a very firm compound with it.

Zagari and Calabrese think that the leucocytes are the manufacturers of the antitoxin. Both they and Nikaurow agree that the leucocytes are the carriers of the antitoxin.

Smirnow thinks antitoxin is prepared from the toxin by hydrolysis or oxidation. If this be true, it follows that the toxin must be destroyed and converted into antitoxin, probably by the leucocytes. If this change takes place in the body of the leucocytes it must be by hydrolysis and not by oxidation, because the action of living protoplasm is a reducing rather than an oxidizing one.

*How does the micro-organism produce its toxin?*—Are toxins formed from the proteids of the nutrient media, by a process of cleavage, or are they elaborated by a metabolic process in the cell of which the organism is composed? Both notions have received support. Brieger noticed that when the Eberth bacillus was grown in peptone solutions it formed no ptomain, while it did when grown in beef-tea. Fitz found that while the butyric ferment produces butyric acid in sugar solutions, it forms propylic alcohol from glycerin, and Marin found that in other solutions it may produce amyl alcohol.

In other words, these and similar observations indicate that the peculiar products formed by these organisms depend largely upon the composition of their pabulum, the temperature of the solution, the presence or absence of oxygen, etc.

It is well known that the virulence of the pathogenic bacteria may be greatly modified by the conditions of their growth, and especially by the supply of air. In some cases the absence of a free supply of air renders the culture fluid much more poisonous than when this is freely exposed to the air.

These facts might lead us to the conclusion that the different products are formed by the cleavage of the different proteids present in the culture media.

But Ushinsky showed that cholera, diphtheria, tetanus, and typhoid organisms could be grown in solutions containing no proteid matter, and that the filtered cultures were quite as active as cultures made from bouillon-peptone solutions. Frankel has shown the same fact with the bacillus of tuberculosis and glanders. Some form of proteid matter could always be detected in these cultures after the organisms had grown for a day or two,

which must have been produced in the cells of the organisms by a synthetic process. It has been shown by numerous experiments that the toxic agent in these culture media is greater after the bacteria themselves have been killed than during their life. This is illustrated, by analogy, in the derivation of invertin from yeast. If the yeast-cells are killed by alcohol, the solution is found to contain more invertin than it does while the yeast-cells are alive. Dr. de Schweinitz has shown this also with the tubercular bacillus. In other words, the products of the growth of these bacteria are to be found in their bodies, and can be extracted from them best by killing them. The true toxins, then, are not usually produced by a decomposition of the proteid matter in the culture media, or in the tissues, but they are produced in the cell of the bacterial organism, by a synthetical-nutritive process, or as the result of a metabolic process. It is certain, also, that in some cases there are two or more substances produced by the same organism. It is probable, also, that the products vary somewhat in different individuals, and in different tissues of the same individual. Thus, it is probable that the products of the tubercular organism in bones, lung tissue, and the cutaneous tissue are different. The history of these different tubercular affections is certainly different, and the visible effects upon the patient are different. There is no evidence to show that any of the cleavage products produced from proteid matters in the culture media play any part in the production of the specific diseases produced by these organisms. All true toxins are elaborated in the bodies of the bacteria, and may be regarded as their excrementitious matters, and are poisonous to these organisms, as well as to the cells of composite organisms, like the human body.

To sum up, then, ptomaines are not the cause of the specific microbial diseases, but the true cause is a toxin, which in some cases may be of a proteid nature, while not in others, and which is elaborated in the body of the organism, and escapes into the culture media, most abundantly on the death of the organisms producing them.

*How do these poisons produce disease?*—This is a very difficult question to answer, as are all questions of the vital action of the cells. That the action can be narrowed down to the action on the individual cells, there can be little doubt. Without going back to the history of the various theories that have been held upon the subject, we note that it is doubtful if we know just how any poison kills. We speak of shock, nervous depression, reaction, syncope,

fevers, etc., which are names for symptoms, of the essence of which we know very little. We have observed that every cell elaborates certain waste-products during its functional activity, which, if allowed to accumulate about that cell, prevent its further functional activity. This is true of unicellular organisms as well as of the composite organisms, like the animal body.

When yeast grows in a solution of sugar, its action ceases when the alcohol has reached a certain strength. Lactic-acid ferment, acetic-acid ferment, and pathogenic organisms are subject to the same law. It is well known that several pathogenic bacteria generate, during their growth, a material which produces a certain effect upon these organisms, now generally known as the Widal reaction. This reaction consists in an arrest of the motion of the motile bacteria, and the agglutination of the bacterial cells into masses.

The arrest, or perversion, of the function of cells seems to be the first observable effect of these toxins, or, indeed, of all poisons.

There is a strong probability that the animal cell is especially sensitive to these toxins, and that it is made sick by a much smaller amount of the specific toxins than certain vegetable cells can tolerate. Even among the animal cells, certain groups of cells seem to be more easily attacked than others.

For example, the toxin of hydrophobia and that of tetanus show a marked selection for the cells of the central nervous system. The similarity of the action of the pathogenic bacteria to that of the ferments has often attracted attention. Indeed, the study of the toxin of diphtheria by Roux and Yersin led these investigators to the conclusion that it resembles the soluble ferments in its effects, more especially fibrin ferment. This notion, however, does not fully accord with all the facts. The usual effect of the soluble ferments is to cause hydrolysis or oxidation, with cleavage of complex compounds into simple ones. Fibrin ferment, however, causes a coagulation of soluble substances. We do not find that as a result of the action of the pathogenic organisms in the human body, there is a disintegration of cellular protoplasm, and the elimination of an increased amount of nitrogenous waste by the urine. We find especially an increase of those substances closely related in composition with the material of which the nuclei of the cells are composed. I refer to the leucomain bases, or the xanthin bases, and uric acid.

It is not easy to say whether these bases are derived more from the pathological destruction of the cells of the tissues, by the toxin, or from the physiological disintegration of the leucocytes, always increased in these microbial infections. Baginski found that in children suffering with post-scarlatinal and post-diphtheritic nephritis these xanthin bases sometimes increase to ten times the normal amount. That all of this increase of these products of cell disintegration does not come from the leucocytes, is rendered certain by the well-known fact that in many of these diseases there is a rapid destruction of the red blood-cells, and the elimination of an increased amount of the derivatives of hemoglobin, along with the xanthin bases and uric acid.

As uric acid is undoubtedly an oxidation product of these bases, it follows that the increase of these bases means that they are produced in such quantities as to overtax the oxidizing power of the blood. It is evident, from the above facts, that the toxins of these microbial diseases, or the organisms themselves, as in the case of the malarial organism, have the power of destroying certain tissue cells.

The first observable effect is disturbance of function, which is followed by degeneration and increased disintegration of nuclein, and then necrosis.

We have been shown by the author of the paper the evidences of degenerative changes produced by diphtheria. In these effects we have, apparently, something akin to the effect of phosphorus on certain cells, and he has shown us the effects of certain well-known chemical poisons.

In a recent extensive discussion of degenerations, G. Vassale concludes that primary systemic degenerations of the nerve-cells are always due to some exogenic or endogenic poison, such as alcohol, lead, absinthe, or bacterial toxin or toxalbumins.

These poisons affect the trophic-centers first and the nerve-fibers later.

We have a good illustration of the effect of the pathogenic toxins on nerve-cells, separated from the possible effects of the organisms themselves, in some recent investigations of the toxin of meat-poison.

In 1896 (*Centralbl. für Bacteriol.*, Bd., 19, 442) Van Ermen-gen discovered an anaerobic bacillus in a ham, which had caused a number of cases of illness at Elzelles, Belgium, and which he proved to be the specific cause of the sickness. The sterilized cultures

of this bacillus produced, in animals, the same train of symptoms as those produced by the ham itself.

He found that this bacillus produced a specific toxin, which produced the symptom-complex of meat-poisoning, technically known as *botulismus*.

Brieger and Kempner have since confirmed Van Ermengen's statements, that this botulismus toxin is produced by this bacillus, and find that the toxin belongs to the same specific group of toxins to which the diphtheria and tetanus toxins belong.

Kempner has succeeded, in animal experiments, in producing an exceedingly active antitoxic serum, from animals immunized in the usual way, by injections of the toxin.

Kempner and Pollack have verified the observations of Marinesco, that the cells of the spinal cord undergo a peculiar degenerative change after the subcutaneous injection of botulismus toxin.

This change is described as a finely granular disintegration or "partial pulverization" of the corpuscular elements known as Nissl's corpuscles.

Kempner and Pollack have also studied the process of regeneration of these corpuscles under treatment with their antitoxic serum. They found that the microscopic degenerative changes corresponded with the clinical observation of symptoms.

They found that it required about two weeks for these nerve cells to become normal in their behavior with Nissl's alcohol methylene-blue stain, although the microscopic appearances above described disappear sooner. The regeneration of the cells was much more rapid when the antitoxic serum was used. The sooner the antitoxin was injected, after the toxin, the less the degeneration. When the toxin and the antitoxin were mixed before injecting, the degeneration above mentioned did not occur.

We have in these investigations, it seems to me, the nearest approach to definite knowledge in regard to the effect of the specific pathogenic toxins upon cellular elements with which I am acquainted. While such observations may have been made in diphtheria, or other diseases, they have not come to my notice. But here, at last, we have a very clear indication that the specific toxins of pathogenic organisms do effect a degeneration of certain nerve-cells, with a disturbance of function, more or less necrotic in tendency, and when present in sufficient amount, produce the death of these cells because of a disintegration of the nuclear elements. These investigations, as far as they go, show



that the poison of our specific microbial diseases is a chemical poison, but do not throw any light upon the question how they act. That these changes are produced by the toxin of these organisms, and not by the organisms themselves, is proven by the above-mentioned investigation of botulismus toxin.

Whether these cause a cleavage of the protoplasmic molecules, or the nuclein of the nuclei, in a manner similar to the action of pepsin or trypsin on the proteid molecule, or the action of invertin on cane-sugar, or whether the degenerative change is the result of the paralyzing effect of the poison upon the functional activity of the cell, with the natural degenerative changes generally observed as the result of cessation of function, I am unable to say. Incidentally, these observations indicate what I have before said, that the ptomains probably play a much less prominent part in food poisoning than formerly supposed.

We have here, also, an explanation of the slow recovery often observed after acute attacks of auto-intoxication.

This may also explain the frequent choreic symptoms following such attacks, usually recovering within a few weeks. The cause of the tardy recovery from such attacks has always seemed to me inexplicable, until I learned of these degenerations of the nerve-cells of the spinal-cord, as a result of the toxic infection.

May it not also throw a new light upon the convulsive seizures seen in children, and even in adults, accompanying acute auto-infection, and which we have heretofore regarded as reflex symptoms?

It also suggests a rational explanation of the nephritis of many acute febrile conditions of microbial origin.

In this form of nephritis it is mainly the epithelial cells which are effected, causing them to degenerate, showing loss of function, a granular change in the nuclei, necrosis, and desquamation. The similarity of the effect of these poisons to that of certain inorganic and organic chemical poisons has often been remarked.

Practically the same effect upon renal epithelium is noticed in poisoning with potassium chlorate, bichlorid of mercury, and a number of organic substances containing the benzene nucleus, as anilin, carbolic, salicylic, or cresylic acids, and their derivatives, as that produced by these microbial poisons. The similarity in kind of these degenerations has been brought out by the author of the paper of the evening.

Dr. A. T. Bristow: Dr. Van Cott has shown us the degenerative changes produced in parenchymatous structures by these

toxins, with the resulting nephritis, degeneration of cardiac muscle, degradation of nervous tissue, and other changes, from which the body never fully recovers. Acute suppurative processes do their work quickly, and, if the patient succumbs, it is in the fever and toxemia of the primary inflammation. With the chronic affections, however, the long suppurative process, aside from its own power to exhaust the patient, saps the vitality by the more insidious process of amyloid degeneration. Thus, for the surgeon, infections divide themselves into two classes—the acute and chronic—which differ from each other not a little in their effects on the patient, and thus correspondingly influence the surgeon in his treatment. The acute suppurative infections with which we have to deal are most commonly those caused by the streptococcus pyogenes and the staphylococcus group, aureus, citreus, and albus. More rarely suppurative conditions, particularly of the ear, are produced by the pneumococcus. Of all these organisms, named somewhat in the order of their virulence, the streptococcic infections are those most to be dreaded. Ordinary so-called idiopathic erysipelas is caused by this organism, and the more serious form of cellular inflammation known as phlegmonous erysipelas. When this organism gains entrance to the puerperal uterus, then we have that terribly fatal infection known as puerperal fever. Bacteriologists formerly made some distinction between the streptococcus of erysipelas, Fehleisen's organism, and the streptococcus of these more serious infections. At present no such distinctions are tenable, as we know that the violence of the infection depends somewhat on its situation, as well as upon the virulence of the particular organism. In a streptococcus infection, the toxemia, with resulting high temperature and rapid depression of vital forces, is out of all proportion to the suppurative process. I have seen a comparatively small pus focus at the seat of a streptococcus inflammation giving rise to a temperature of  $106\frac{1}{2}^{\circ}$ . So, too, in a cutaneous erysipelas one may frequently observe temperatures of  $104^{\circ}$  and over without the occurrence of suppuration at all. The toxin is peculiarly virulent. In cases of phlegmonous erysipelas, diffuse cellulitis, the surgeon will make early and free incisions. Unfortunately, it is often his lot to see the inflammatory process creep up the tendon-sheaths, and, in spite of energetical surgical treatment, endanger the life, not alone of the part attacked, but of the patient as well. I have for the past two years, for all such cases, been in the habit of using freely the so-called serum of Marmorek, or antistreptococcic serum, as it is somewhat clumsily

called. I have not used the foreign article, but in all my cases have used that of Parke, Davis & Co., for I believe that this particular serum loses its efficacy with age much sooner than the anti-toxin of diphtheria. I like, therefore, to get a fresh specimen. I have used the serum now in seven cases, three of phlegmonous inflammation of the arm, following slight wounds, and in three cases of erysipelas—one following vaccination, one starting from a small granulation in an amputated stump, and one case of facial erysipelas, the source of infection being a small pimple near the ala nasi.

This last case was one of the most serious of its class that I have ever seen, with very severe constitutional symptoms, which resisted treatment. The use of the serum was followed by a prompt amelioration of all the symptoms, with a subsidence of the erysipelatous blush. I was then timid in the use of the serum. Had I known then what I do now of this valuable remedy, I could have cut short what proved to be a severe illness. Both the other cases of erysipelas, occurring recently in my practice, I jugulated by the prompt and free use of the serum. In the phlegmonous inflammations, suppuration had already occurred when I saw the cases, and the mischief continued after the freest incisions, but, as I believe, was arrested by the free use of the serum.

One of these cases had a temperature of  $106.5^{\circ}$ , which the serum dropped in about eight hours to  $102^{\circ}$ . In this case I used 60 c.c. in two days, the largest quantity I have ever used.

I have never observed the slightest unfavorable symptoms from the use of this remedy, not even the erythema, which sometimes appears, as a result, I suppose, of the solution of hemoglobin in the foreign serum. To sum up, while it is not well to make positive statements from a series of but seven cases, nevertheless, from my own observation, and from my knowledge of the literature of the subject, I believe we have in this agent a prompt cure for erysipelas, a remedy of much value in arresting phlegmonous inflammations, which are almost always the result of streptococcus infection, and not always amenable to simple incision and drainage, which is, of course, in no case to be neglected.

I have never had an opportunity to use the serum in puerperal cases. To be of use in these deadly infections, it must be used early, and with freedom, not less than 60 c.c. a day. If delayed until there has been much destruction of tissue or extension of

process to layers of broad ligament, its aid will be invoked too late.

With regard to its influence on parenchymatous degeneration, Marmorek observes that, if used before albuminuria, this does not appear; if afterward, it promptly disappears.

I desire specially to call the attention of the profession to this remedy, because it can be used by any one, and if used early, I believe, may render unnecessary surgical interference of a nature which not every one is competent to give.

With regard to the other infections, although some work has been done in the direction of producing an antitoxin, there are as yet no definite results to record. The *staphylococcus pyogenes aureus* stands next in virulence to the *streptococcus*, its toxemia, however, being proportionate to the amount of suppuration. Acute osteomyelitis is caused by this organism, in which connection may be mentioned that needful caution which will distinguish between the deep-seated pain of osteomyelitis, occurring in the shaft of the long bones, near a joint, and the pain of acute rheumatism in the joint.

For osteomyelitis there is no treatment but prompt drainage.

Tuberculosis, syphilis, and leprosy may be regarded as the principal, perhaps the only, chronic infections. Collections of pus due to a tubercular infection sometimes constitute important exceptions to the rule, which requires free incision, with drainage, in the presence of pus. Before incision we have, as a rule, but a single infection, that of tubercle. A free incision makes it sure that, sooner or later, we will have a multiple infection by the *streptococcus* or the *staphylococcus* group, thus complicating the case indefinitely. I have seen more than one tubercular joint with a pyoarthrosis saved by successive aspirations, together with the use of iodoform-glycerin injections, which I am sure would have resulted in at least ankylosis, if not worse, under free incision. So, too, with psoas abscess; it is not always wise to incise, for the same reason, until aspiration has been repeated a number of times. Resulting high temperature will almost always be a sign of multiple infection. In suitable localities, I have sometimes been able to destroy tubercular foci and prevent the reinfection of the tissues of the wound by the use of live steam. In all these cases, of course, other surgical measures appropriate to the case will be necessary. In conclusion, it may be said that if we wish to avoid the parenchymatous changes produced by these organisms we must adopt prompt

medical or surgical treatment—medical, by the early use of serums where these are available, as antitoxin and Marmorek's serum; surgical, such as the removal of foci of toxemia by incision and drainage. In these infections timidity and indecision have no place, and success is the reward of the brave and of the man who not only has convictions, but the courage born of them.

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PROCEEDINGS OF SOCIETIES.

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BROOKLYN SOCIETY FOR NEUROLOGY.

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*Regular Meeting, Held December 29, 1898.*

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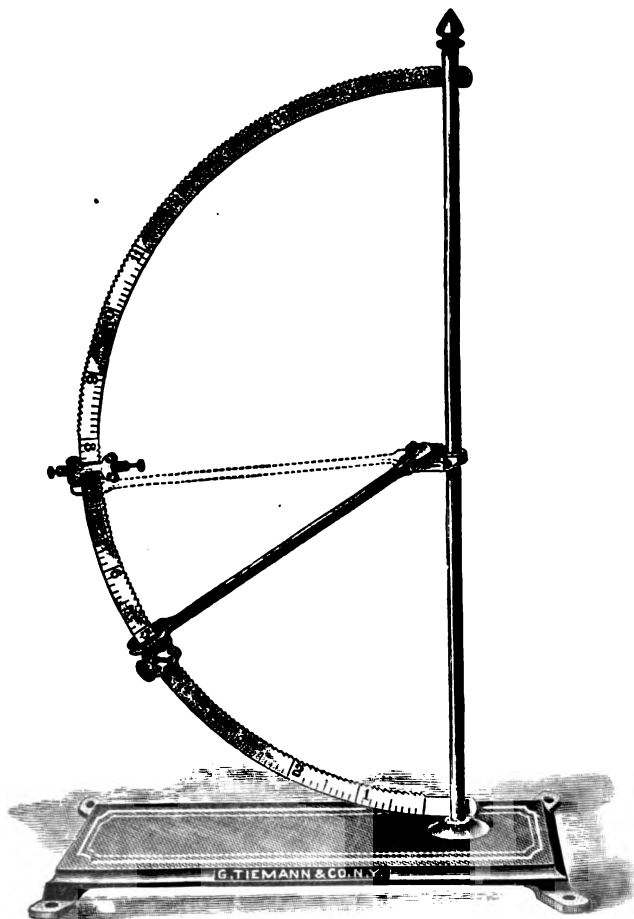
DR. A. C. BRUSH, President, in the Chair.

Dr. Haynes showed and demonstrated his instrument for measuring the knee-jerk.

He said, noticing the difference of opinion amongst good observers as to the condition of a certain knee-jerk and the indefiniteness of the terms used in designating its condition as normal, lively, plus, minus, exaggerated, and absent, meaning and seeming one thing to one observer and another thing to another, also whether there was any difference, and how much, between the simple or unreenforced and the reenforced knee-jerk and to give a definite rule or standard of measurement for the recording of observation in the examination of cases requiring this test was the reason of my contriving, with the help of Messrs. Geo. Tiemann & Co., of the following simple apparatus.

It consists of an oblong iron stand mounted on castors, at one end of which is set up an iron rod, to each extremity of which is fastened a flat brass semicircle, the lower half of the inside edge and the upper half of the outside edge notched; marked on one side with measurements in centimeters and on the other side with the degrees of measurements of a circle commencing with one at the foot of the iron rod and continuing round the circle in the usual way to the top. At the center of the iron upright rod is fastened by a fixed hinge-joint an aluminum arm the other extremity of which extends to and is notched to embrace the brass semicircle; this end of the arm is held at its starting-point by a movable screw-

stop brass adjuster and resting on this end of the arm is an aluminum spring-stop indicator, all of which is very clearly represented in the accompanying illustration, except the mounting on castors which are to facilitate moving the instrument so as to adjust it to the different positions of the test and patient.



So that with the aluminum arm resting on the tip of the toes of the patient's foot, held and indexing the starting-point by the adjuster, the blow being given the arm is kicked up, lifting the indicator which is held at the point reached by the spring catch; the arm falls back on to the adjuster, the indicator is released by pulling on the spring catch and lowered to the starting-point on the arm again after reading and recording the index and is ready for another test.

It seems to me that this instrument will be an accurate means of registering the strength of any knee-jerk, not alone uniformly, but understandingly, and, after its use for a considerable time and in a large number of cases, a standard can be made through which proper terms will be correctly applied and universally understood. It is thought that the use of this instrument is adapted for recording observations made during the examination of cases in which the elbow-jerk is tested and after the same manner.

Dr. Coombes suggested in the use of the instrument taking into consideration the position of the patient, the strength and placing of the blow.

Dr. Onuf thought comparisons between different knee-jerks impossible on account of the different length of legs, best point on tendon for striking the blow, angle made by position of sitter, etc., but in individual cases for comparison in examinations and improvement it might be useful.

Dr. Brush did not think it an instrument of precision, which is an impossibility under the circumstances, but still useful in getting at the average knee-jerk, especially necessary in medico-legal work, its simplicity and practicability were apparent, but in its use consideration must be had for uniformity in placing the foot, strength of blow, and sensitive point on tendon, but notwithstanding all the difficulties the instrument would be useful in making an average standard for all cases.

Dr. Frankel said he had long sought for an instrument for measuring the extensity and intensity of the knee-jerk, which is the pulse of the neurologist; that in the examination of more than two hundred cases at the Montefiore Home he had found the sensitive point to vary in the same patient at the same examination and in different patients in separate examinations owing to their general condition, surroundings, size, and shape of the patella, length of tendon, unevenness of surface, etc., so that for all practical purposes it was not necessary to find the most sensitive point; that the usual blow in the usual manner and place on the tendon answered all practical purposes without unnecessary loss of time and so far as he could see for simplicity, accuracy, and sufficient definiteness this instrument would answer all practical purposes.

Dr. Haynes, in closing, said that most of the criticisms had been against the different methods of obtaining the knee-jerk and not against the use of the instrument, which he had contrived on account of the lack of such a tool for making records in suitable

cases, the others so far invented, being unhandy and expensive. He thought the objections to its use would be overcome by time and employment, and that it would be the means of our establishing an average for different and all classes of cases and noting improvements in individual ones. So far as the blow was concerned he had thought of that matter, but after mature consideration and the contriving of different instruments, including the pop-gun of childhood's days, had concluded that the ordinary blow struck in the ordinarily forcible manner in the usual place was the less terrifying, simplest, and, therefore, the best.

By invitation Dr. Joseph Frankel of the Montefiore Home, Manhattan, read a paper on "A Contribution to the Etiology and Symptomatology of Facial Palsies."

He divided these cases into spasmodic neuralgia and paralytic varieties. He reported the case of a young man, who, soon after being infected with syphilis, suffered a facial palsy, which was rapidly cured with iodid of potash. He believed this to have been a case of primary specific neuritis not due to a gumma, meningitis or disease of the blood-vessels, and such as occurs in nerves supplying eye-muscles later on in the syphilitic life. He next showed the analogy between the fifth and seventh cranial nerves and the anterior and posterior nerves of the spinal cord, and how, just as we have disease of the spinal nerves causing ataxia, so we can have the same condition in these two cranial nerves, resulting in peculiar expressions to the two sides of the same face, due to an ataxia in their action. He mentioned two such cases which had been under his care; one case, in which there was tuberculosis having a facial palsy on one side and facial ataxia on the other; and a tabetic, in which there was ataxia on both sides of the face, giving, in each case, the face a very peculiar and sometimes fearful expression, and also varying at different examinations.

Dr. Haynes said that, as he understood the present status of acute specific neuritis, the opinion of most men on the subject was against such a course in either single or multiple forms of the disease, and cited the opinions of the last meeting of the American Neurological Society. He could not see why the first case cited could not have been accidentally coincident, and as to the rapidity of the cure, he had seen the same course in ordinary cases, and, in fact, Gowers, in his clinical lectures, recommends no medication whatever, and says that every attack leaves some resulting contraction, which in one case of double-facial palsy, in a young lady, the



resulting contraction on both sides was so disfiguring she committed suicide.

The analogy between facial and spinal ataxia he thought very well explained and demonstrated, and worthy of study in future cases.

Dr. Onuf mentioned a case of his in which there was left ophthalmoplegia, left facial palsy, with a specific history and loss of reflexes; in other words, a case of superior tabes with anesthesia of the left side of the mouth.

Dr. Brush had never seen a case of acute syphilitic neuritis of the seventh nerve, and thought in the case mentioned it might be an incident of the infection; he had seen such cases, due to a gumma, and in a collection of cases recently reported he mentioned four of multiple neuritis, for the cause of which he could only ascribe syphilis.

Dr. Frankel, in closing, said that, notwithstanding the weight of opinion and past experience, he still regarded his cases as due to syphilis, there being no other apparent cause, and the rapidity of the cure under the appropriate treatment.

W. H. HAYNES, Secretary.

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#### ASSOCIATED PHYSICIANS OF LONG ISLAND.

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The President has appointed the following Committees:

*Scientific and Executive Committee.*—C. F. Barber of Brooklyn, Chairman; G. K. Meynen of Jamaica, W. H. Ross of Brentwood.

*Legal Committee.*—W. A. Hulse of Bayshore, Chairman; W. C. Wood of Brooklyn, J. Mann of Jericho.

*Membership Committee.*—E. H. Wilson of Brooklyn, Chairman; W. Lindsay of Huntington, B. D. Skinner of Greenport.

*Publication Committee.*—C. H. Niesly of Manhasset, Chairman; S. Hendrickson of Jamaica, F. E. West of Brooklyn.

*Local Entertainment Committee for June Meeting.*—G. W. Fallor of Oyster Bay, Chairman; G. A. Fensterer of Floral Park, M. S. Caldwell of Far Rockaway, J. C. Schmuck of Lawrence, J. E. Hutcheson of Rockville Center.

## MEDICAL SOCIETY OF THE COUNTY OF KINGS.

*707th Regular Meeting, February 21, 1899.*

The President, Joseph H. Hunt in the Chair.

The minutes of the January (annual) meeting were read and approved.

### APPLICATIONS FOR MEMBERSHIP.

E. Paul Harman, 423 St. Mark's avenue, N. Y. Univ., 1886. Proposed by D. Myerle and H. A. Fairbairn.

A. W. Billing, Second avenue and Seventy-first street. Proposed by F. A. Jewett and D. Myerle.

Wm. A. Jewett, 282 Hancock street, L. I. C. H., 1897. Proposed by F. A. Jewett and D. Myerle.

Earle E. Woolworth, 864 Sterling place, N. Y. Univ., 1897. Proposed by Membership Committee.

Edgar C. Joyce, 440 Third street, P. & S., N. Y., 1895. Proposed by Membership Committee.

John Frederick Haller, A.B., 623 Macon street, University of Buffalo, N. Y., 1888. Proposed by Membership Committee.

Norman P. Geis, 457 Classon avenue, L. I. C. H., 1897. Proposed by J. E. Sheppard and D. Myerle.

Frank L. Benton, 1063 Bergen street, P. & S., N. Y., 1897. Proposed by J. M. Winfield and W. C. Wood.

John Ketterle, 221 Troutman street, Bell. Med. Coll., 1897. Proposed by W. L. Chapman and E. H. Bartley.

In connection with the fixing of the annual dues at \$10, the President called attention to the provision of the by-laws in regard to new members, namely, that the initiation fee of \$5 for new members carried with it exemption from dues for the current year.

### ELECTION OF MEMBERS.

The following, having been regularly proposed and favorably acted upon by the Council, were declared by the President elected to membership:

F. B. Bergen,

W. H. Muchmore,

H. V. Duggan,

T. E. Brown,

John M. Taylor.

The President announced the death of Dr. Alvin Charles Henderson, who was a member of this Society from 1874 to 1884.

REPORT OF COMMITTEE ON ENTERTAINMENT AND RECEPTION.

(Adjourned from annual meeting.)

J. E. Sheppard presented the report of this committee.

On motion the report was accepted and ordered printed with the proceedings of the annual meeting.

REPORT OF COMMITTEE ON PUBLIC HEALTH.

(Adjourned from annual meeting.)

Z. Taylor Emery, Chairman, presented the report of this committee. On motion, duly seconded, the report was accepted.

Dr. Bartley exhibited to the meeting two boxes of "Krato," rheumatic tablets, bearing the inscription: "Give quick relief and cure Rheumatism, Gout, Sciatica, Lumbago, Neuralgia, and Headache." He understood that these packages had been distributed through the city in hallways, etc., and were undoubtedly similar if not identical with those already reported to the Society; and he moved that they be referred to the Committee on Public Health for consideration and report. Seconded and carried.

SCIENTIFIC BUSINESS.

"Prevention and Modern Treatment of Tuberculosis." By George W. Brush.

(Paper read.)

Discussion by Drs. Emery, Bartley, Wilson, Evans, Herbert Williams, G. R. Butler, Bunn, and Brush.

Dr. Brush offered the following resolutions, which, on motion, duly seconded, were unanimously adopted, viz.:

WHEREAS, It is shown by facts presented to this Society, substantiated by statistics, that tuberculosis causes the death of more than 13,000 of the population of this State each year; and,

WHEREAS, The revelations of science and the results of experience prove this disease to be an infectious and communicable one, but with proper knowledge on the part of the people and the exercise of certain precautions one easily prevented; and,

WHEREAS, There are no public hospitals in this State for the special treatment of this disease, either State or municipal; now, therefore,

*Resolved*, That the Medical Society of the County of Kings

respectfully urges upon the Legislature of this State the importance of speedy legislation to supply this want and stop such a fearful and unnecessary sacrifice of human life; also that they be urged to make more liberal provision for the stamping out of tuberculosis among the cows of this State, which furnish our milk-supply.

*We also recommend* that provision be made for the establishment of State sanatoria, where those afflicted with this disease may receive intelligent treatment, and also that local authorities in our large cities be authorized by law to establish special hospitals in the suburbs for the treatment of tuberculosis, thus removing a serious source of danger to others and a fertile source of the spreading of the disease among the people.

*Resolved*, That we learn with pleasure that the Board of Health of this city have formulated a circular containing concise information as to the means which must be adopted to protect citizens from tuberculosis, and urge that they be freely distributed among the people.

*Resolved*, That a copy of these resolutions be sent to the Governor; the Chairman of the Finance Committee of the Senate, Hon. F. W. Higgins; to the Chairman of the Ways and Means Committee of the Assembly, Hon. J. P. Allds, to the Health Commissioner of this city, and to the public press.

Dr. Brush stated that there was a bill before the State Legislature for the establishment of a State Sanitarium in the Adirondacks, and suggested that members of the Society should write to Senator Frank W. Higgins, Chairman of the Finance Committee of the Senate, or to Hon. J. P. Allds, Chairman of the Ways and Means Committee of the Assembly, urging the report of that bill, or some measure similar to it.

Dr. G. R. Butler believed that the daily papers were the best medium through which to educate the public as to the nature of tuberculosis and the means for its prevention, and suggested that money might be appropriated to pay for printing in the newspapers, from time to time, short and clear statements in reference to the prevention of tuberculosis; in the same manner as the official municipal and State notices of various kinds are so printed.

After discussion, Dr. Bartley moved that Dr. Butler's suggestion be referred to the Committee on Public Health for consideration. Seconded and carried.

Dr. Bartley referred to the recommendation of the Committee on Public Health as to the introduction in the public-schools of

some instruction on the subject of tuberculosis, and moved that the Secretary be instructed to transmit to the Board of Education and to the Board of Health a copy of that portion of the report of the Committee on Public Health which relates to instruction in the public-schools upon the subject of tuberculosis. Seconded and carried.

The President announced that Dr. Carl E. Elfstrom, a surgeon of the Swedish army, who was present, had a new method of treating croupous pneumonia, which he wished to have investigated by the Society, and that the matter had been fully described in the *New York Medical Journal* of August 27 and October 15, 1898.

On motion, duly seconded, this matter was referred to the Council.

STANDING COMMITTEES, FOR THE YEAR 1899.

The President appointed the following:

*Committee on Membership.*—Francis S. Kennedy, Russell S. Fowler, Edson S. Chick.

*Committee on Directory for Nurses.*—Henry A. Fairbairn, Edgar A. Day, William Waterworth.

*Committee on Entertainment and Reception.*—James W. Fleming, James P. Warbasse, Frank Baldwin.

*Historical Committee.*—(To be appointed at April meeting.)

*Committee on Legislation.*—James M. Winfield, George W. Brush, Arthur C. Brush.

*Committee on Public Health.*—Fred. A. Jewett, Robert A. Black, Thos. C. Craig, Fred. D. Bailey, Jerome Walker.

*Delegate to the Medical Society of the County of New York.*—Charles Jewett.

*Delegate to the Medical Society of the County of Queens.*—Charles N. Cox.

Before adjournment, the President referred to the necessity of continually bearing in mind the needs of the Society in the work of erection of the new building, and reminded the members that Dr. Francis H. Stuart was at all times ready to receive contributions or donations that might be secured by the members, from whatever source.

There being no further business, on motion the meeting adjourned.

ROBT. J. MORRISON,  
Associate Secretary.

*708th Regular Meeting, Tuesday, March 21, 1899.*

The President, Joseph H. Hunt, in the Chair.

The minutes of the previous meeting were read and approved.

REPORT OF COUNCIL.

The Council reported favorably upon:

Wm. Averill Jewett, L. I. C. H., 1897.

Albert W. Billings, Bellevue, 1887.

Theo. Chas. Guenther, Univ. Mich., 1896.

John Ketterle, Jr., Bellevue, 1897.

Earle Eugene Woolworth, N. Y. Univ., 1897.

Norman P. Geis, L. I. C. H., 1897.

E. Paul Harman, N. Y. Univ., 1886.

Fred. L. Benton, P. & S., N. Y., 1897.

APPLICATIONS FOR MEMBERSHIP.

Bruce G. Blackmar, Ovington avenue and Third avenue; P. & S., N. Y., 1892. Proposed by H. Beekman Delatour and David Myerle.

Frank T. Burke, 227 Ninth street; L. I. C. H. Proposed by George McNaughton and David Myerle.

Charles F. Fay, 243 Hancock street; L. I. C. H., 1898. Proposed by George McNaughton and David Myerle.

Victor L. Zimmerman, 950 Putnam avenue; Bellevue, 1897. Proposed by O. A. Gordon and Walter C. Wood.

Moritz Wulfson Dreyer, 60 McKibben street; University of Dorpat, 1888. Proposed by Membership Committee.

David Louis Cederholm, 574 Pacific street; L. I. C. H., 1897. Proposed by Fredk. J. Shoop and David Myerle.

Judson P. Pendleton, 36 Seventh avenue; P. & S., N. Y., 1898. Proposed by Membership Committee.

Guthrie R. Winder, 44 Jefferson avenue; L. I. C. H., 1898. Proposed by Membership Committee.

W. H. Biggam, 119 Dean street; P. & S., N. Y., 1881. Proposed by William Waterworth and Jos. H. Hunt.

ELECTION OF MEMBERS.

The Council having made no recommendations for election to membership, at the February meeting, there were no names to declare elected at this meeting.

The President stated that he desired to correct the mistaken rumor that there had been a large number of members resign from the Society on account of the increase in the annual dues; that there had been about fifteen resignations (some of which had afterwards been withdrawn), but to counterbalance that, nearly twice that number of nominations for membership had been received.

The President announced that since the last meeting the following had signed the by-laws and completed their membership:

Harrison C. Allen,  
Charles W. Henry, Jr.,  
Thomas E. Brown.

The President announced the death of Dr. Hayden Nichols, a member of the Society from 1886 to 1899, who died March 4, 1899.

Also the death of Lieutenant James Wood, who gave his life serving his country in Cuba. He died March 3rd, 1899, and was at the time Military Governor of the Civil Hospital at Guanagay, Cuba. He was a member of the Society until 1894, when he left Brooklyn.

Both of the above were referred to the Historical Committee, to prepare the proper obituaries.

The President announced the receipt of a communication from Dr. Jewett of the Board of Trustees, recommending that the Society take some action in regard to the contemplated Atlantic avenue improvements—the sinking of the Atlantic Avenue Railroad; the bill before the Legislature contemplating a sunken track across Bedford avenue, at our building.

Dr. Emery moved that the Secretary be directed to communicate with the Senators and Assemblymen, asking them, in the name of the Society, to support the bill.

Seconded and carried.

#### SCIENTIFIC BUSINESS.

“Functional Derangements of Ocular Muscles.” By Edward W. Wright.

Discussion by Drs. Prout, North, Blake, Onuf, Miller, and Jameson.

“The Metric System in Prescription-Writing.” By Elias H. Bartley.

Discussion by Drs. Brundage, Hutchinson, and Hunt.

Dr. Bartley called the attention of the Society to a bill now before the Legislature—an act to amend the public-health laws—which is intended to combine all the boards of pharmacy of the State under one board; and that in said bill were the following sections:

“Among the duties of the Board of Pharmacy shall be to require and provide for the annual registration of every dispensary, pharmacy, or store in which there is compounded, dispensed, or sold drugs, medicines, or poisons, and may make as a prerequisite for such registration the furnishing of evidence satisfactory to the board that the same is conducted in full compliance of the law and in accordance with the regulations of the board; and shall charge and receive one dollar for each registration.”

“In the month of January, 1900, and annually thereafter, the proprietor of every dispensary, pharmacy, or store in which there is compounded, dispensed, or sold drugs, medicines, or poisons, shall make a statement upon oath showing what licentiate is in charge of same; accompanied by a fee of one dollar”

On motion, duly seconded, this matter was referred to the Legislative Committee of the Society for action.

The Secretary presented the report of the delegation to the State Medical Society, which, on motion, was received, and placed on file.

The President stated that the Chairman of the Committee on Public Health had informed him that he desired to add other members to his committee, and requested authority for so doing.

On motion, duly seconded, the Chairman of the Committee on Public Health was empowered to enlarge his committee, in his discretion.

Dr. Myerle called attention to a bill now in the Assembly in reference to the appointment of the President of the Board of Health. As the law now stands, the President of the Board of Health is not a physician, and this bill will give the Mayor power to appoint a physician or not.

On motion, the matter was referred to the Committee on Legislation, to take action supporting the bill.

The President announced that bound volumes of the *BROOKLYN MEDICAL JOURNAL* for 1898 could be exchanged for unbound volumes by paying the expense of binding.

There being no further business, on motion adjourned.

DAVID MYERLE,  
Secretary.



## THE BROOKLYN SURGICAL SOCIETY.

*Regular Meeting, October 6, 1898.*

### CASE OF OSTEOSARCOMA OF THE HUMERUS.

Dr. Russell Fowler reported a case as follows: E. S., housewife, aged 51, German, admitted to the Brooklyn Hospital, July 22, 1898. Discharged August 21st, cured. Previous history negative.

*History on Admission.*—One year and a half ago the patient noticed a swelling of the lower part of the upper arm. Pain was severe at night. The growth was rapid. One year ago her physician made a cut over the tumor and attempted its removal. It recurred rapidly, and the skin over it ulcerated. The patient during this time lost weight and strength.

*Condition on Admission.*—Patient is thin and emaciated. There is a growth on the lower portion of the shaft of the left humerus, firmly adherent to the bone, about the size of a large orange. The skin over the tumor is ulcerated. The axilla was more resistant than that of the opposite side. Careful auscultation and percussion of the chest, and physical examination of the abdominal viscera failed to show any visceral involvement. Examination of the urine negative. Mental condition good. There was total disability of the arm, due to pain. The clinical diagnosis of osteosarcoma was made, and an immediate and radical operation advised, in view of the fact of the rapidity of the growth, its ulceration, and the presumable involvement of the axilla.

The patient was told that she must lose her arm and the bones in proximity to it.

*Operation.*—July 23rd, day after admission. A total amputation of the upper extremity, with the exception of the inner third of the clavicle, was determined upon, with primary ligation of the subclavicular artery and vein. An incision was made over the clavicle, thence curving downward in front to the lower border of the axilla, and upward over the neck of the scapula behind to the incision over the clavicle. Hardly had the clavicle been sawn through and dislocated outward, when the patient's pulse became very feeble. The subclavian artery and vein were tied off, and the incision deepened to include the muscular layer and the con-

tents of the axilla. The patient's condition was so serious that it was decided to take off the arm at the shoulder, with the clavicle, in order to complete the operation as quickly as possible. This was done. It was then found that the flaps did not coapt accurately, and the scapula was rapidly taken out. The flaps were then coapted and a dry dressing applied. No drainage was used. The loss of blood was slight in spite of the difficulty met with in tying the subclavian. The wound was dressed on the seventh day, and healing proceeded uneventfully. The patient was discharged from the hospital on August 21, 1898.

Dr. Archibald Murray presented a specimen of a left lung studded with sarcomatous nodules at the three hundred and ninety-fifth regular meeting of the Brooklyn Pathological Society, held April 14, 1898. This specimen was from a man of twenty-two, who had entered Flatbush Hospital August 1st of the year previous with an osteosarcoma of the right humerus. The attending surgeon at that time removed the arm at the shoulder, and he went away apparently cured. About four months later there was a recurrence of the growth, and upon examination it was found that the pectoralis major and the clavicle were involved. These were both removed, and in two weeks he was out again. On the following March he returned to the hospital, and died there. At the autopsy it was found that the space in front of the scapula and around the region of the shoulder was filled in with a large sarcomatous mass. Both lungs were studded with sarcomatous nodules. There was no involvement below the diaphragm. The lungs and the tissues around the shoulder-joint alone were involved. This was a fascial sarcoma.

Knowing the case quoted above, the speaker determined to give this woman all the benefit that surgery could give her, rather than risk a subsequent operation. He had examined the patient a few days ago, and found no evidence of recurrence.

*Pathologist's Report.*—The report of the pathologist shows the growth to be osteosarcoma, with some areas of softening and a beginning involvement of the fascial planes. The tumor extends over two-thirds of the bone. The axillary contents are the seat of round-celled infiltration, which is unmistakable sarcoma.

*Regular Meeting, December 1, 1898.*

## KUESTNER'S ABDOMINAL INCISION.

Dr. R. W. Westbrook reported his experience with the incision known as the suprasymphyseal cross-incision of Kuestner, designed to avoid disfiguring scars of the abdominal wall after abdominal section. It permits of a moderate-sized opening into the lower abdomen for operations on the female pelvic organs.

The incision is a transverse slightly curved skin incision, with its concavity upwards, made a short distance above the symphysis pubis, and about three to five inches long. It is carried down to the aponeurosis of the abdominal muscles. This skin flap, with its fat, is then liberated with a few strokes of the knife, as far as possible in the direction of the umbilicus, and retracted and held by a temporary suture passing through its edge and through the skin of the abdomen above the umbilicus. A longitudinal abdominal incision in the middle line is then made as usual into the abdominal cavity, through the remaining layers of the uncovered area. This latter incision may measure two to three inches or more in length, and with suitable retractors allows of a fairly roomy opening. The wound may be closed with a running catgut suture to the peritoneum, a chromicized catgut or kangaroo-tendon suture for the muscular layer and aponeurosis, and a subcuticular suture of silk or silkworm gut for the transverse skin incision. The scar resulting on the abdomen is soon covered by the pubic hair, or is hardly visible in the natural skin folds of the lower abdomen. A small, simple dressing will cover the wound.

The criticism has been made that this incision allows of too small an opening to see well into the abdominal cavity and work through. Cases operated on in the service of Dr. Dickinson in the Brooklyn Hospital contradict this. In 15 of these cases the incision was used for the following operations: one case of simple breaking up of adhesions causing retroflexion; three of ventral fixation of uterus; one of intra-abdominal shortening of the round ligaments; another of the same operation accompanied with ovariectomy; four cases of ovariectomy, one of which was for a cyst the size of a lemon with adhesions, and another where an appendectomy was also done; one myomectomy for three myomata, one the size of a turkey's egg, and two smaller ones on the posterior surface of the uterus, deep in Douglas' cul-de-sac; and four cases

of salpingectomy, three of which were for pus-tubes.

An unusually fat abdominal wall forms the only contraindication for this incision in otherwise suitable cases.

Many patients will submit to an operation when told that they will have no scar on the abdomen. Patients are often willing to submit to celiotomy by the vaginal route, who have great dread of being cut "into the bowels" through the abdominal wall. The Kuestner incision will often prove a compromise in such cases, and permit of a better operation than vaginal celiotomy, especially in instances where bad adhesions may be encountered. The patient now presented has the scar entirely hidden in the pubic hair. The photograph shown is life-size, and displays an insignificant line, little more than two inches long, above the pubic hair. Another scar, of the same size, is shown in the sketch, and represents the case of myomectomy previously mentioned.

#### KIDNEY, SHOWING ANOMALOUS BLOOD-SUPPLY.

Dr. R. W. Westbrook presented a specimen from the dissecting-room, which he showed not because of its rarity, but because, on the contrary, such irregularities of the blood-supply to the kidney are rather common. Treatises on surgery say almost nothing about these irregularities, but devote a great deal of attention to malformations and misplacements of the kidney. In this instance, the kidney occupied its normal position, and was supplied by the usual renal artery entering its hilum; but in addition, a large artery springing low down from the aorta, near its bifurcation, passed directly upward and entered the kidney at its lower extremity. Such irregularities should always be kept in mind at the operating-table, for serious hemorrhage might result from the severing of such a vessel as this as the kidney was cut away, if its existence were not previously determined. More than one fatal case from such hemorrhage has been reported. Irregular vessels to the kidney may spring from the supra-renal, the right hepatic, the abdominal aorta—as in the present case—the lumbar, the common iliac, or its internal or external divisions, the middle sacral, and the colica-dextra. Such vessels may enter in the front or the back of the kidney, or at the upper or lower extremity. The kidney may, or may not, be in normal position when irregular blood-vessels are present.

Dr. H. B. Delatour said that this specimen recalled to him a case that he had operated upon about two years ago. He found, in

addition to the usual blood-supply, a second vessel running into the lower extremity of the kidney. He presumed the origin was the same as in this case. Fortunately he had made an anterior incision which exposed the kidney completely and brought the extra vessel plainly into view.

#### INTRA-UTERINE AMPUTATIONS.

Dr. B. B. Mosher presented cases and reports of three intra-uterine amputations.

*Case I.*—A child, ten-months old showed amputation of toes of the right foot; partial amputation of right leg, and partial amputation of fingers of right hand.

A very interesting point in this case is the deep constricting cicatricial band around the middle third of the right leg.

*Case II.*—A child, five-months old, was without fingers on one hand and without toes on the foot of the opposite side. It also had a club-foot.

*Case III.*—A child, two-weeks old, with absence of index, middle, and ring fingers of one hand.

These cases the speaker regarded as something more than simple deformities and presented them as cases of intra-uterine amputation.

The supposed causes of these conditions are very variable; from equally as good authorities we get such explanations as amniotic bands, torsion, and looping of the cord, diminished intra-uterine fluid, etc.

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#### BROOKLYN GYNECOLOGICAL SOCIETY.

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*Stated Meeting, held January 6, 1899.*

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The President, W. H. Skene, M.D., in the Chair.

Dr. Geo. McNaughton presented a specimen of an unruptured tubal pregnancy, with the following history:

Mrs. P., thirty-four years old, married twelve years, one child nine years ago, no miscarriages; she was curetted last March for the relief of excessive menstrual flow, since which time she has been normal in that particular until September 10th, inclusive. About October 1st she had a muco-serous discharge from the vagina, which was accompanied by some pain, enough to cause

her to consult her physician. On October 20th she was taken with an excruciating pain in the region of the stomach, the character of the pain, location, etc., suggested hepatic colic; she was at this time nauseated; the severe pain lasted about three hours, and she suffered considerable pain for twenty-four hours. This attack was followed by a general soreness of the whole abdomen. A few days later the pain returned and was, if possible, more severe than the first. This time there was no flow from the uterus. The patient remained in bed two weeks because of the abdominal soreness; then she got up, feeling very well, and continued about until Thanksgiving week, when an excessive flow came on. At this time she passed some pieces of membrane. The pains of this attack were more like the pains of labor. The flow ceased in six or seven days; then she had another period of a week when she felt quite well.

A few days later the flow reappeared. It seemed to the patient to come in gushes. The pain next appeared on the right side, low down, and was sharp in character. The patient came to my office on December 12th, and related the foregoing history. On examination, I found the uterus enlarged, softened, but in its proper position; to the right, on a plane with the uterine body, I detected a mass of uncertain size. I was uncertain because this mass was exquisitely sensitive. I told the patient that she was probably pregnant in her right Fallopian tube, and possibly she might have an ovarian abscess on that side; but in any event she should receive immediate attention. On the same date she was seen by Professor Skene, who, I believe, endorsed my opinion. The patient entered L. I. C. H. the same night, and was operated upon the following day, and this mass, or cyst, which has not yet been opened, was removed from her right side. The operation was without incident; likewise her convalescence. This tumor is presented because they are not often captured before they are ruptured. I can claim no credit for my diagnosis, as the history pointed to but one condition, and that was the one found.

NOTE.—The patient has since had an attack of lobar pneumonia, and was very ill, but is now convalescing. I have not yet opened the specimen because I wish to have it examined by a pathologist in order to ascertain if the Fallopian tube is still unruptured.

#### DISCUSSION.

Dr. Chas. Jewett: I would like to ask Dr. McNaughton if the

specimen was found in the broad ligament, and also whether there had been much bleeding. In previous discussions Dr. McNaughton has made the assertion that pain is greater in broad ligament than in intraperitoneal rupture, and this opinion is held by other authorities. In this particular case the pain seems not to have been intense. May I ask, too, if atropin was given the patient before the operation. A hypodermic of atropin or of atropin and morphin before etherization tends to prevent the broncho-pneumonia which sometimes follows anesthesia with ether.

Dr. L. Grant Baldwin: Before discussing the case I would like to know what the specimen really is. It would appear from an external examination that the uterine end of the tube is attached to it. If so, the enlargement being covered with peritoneum, I fail to see how it could have come out of the broad ligament.

In regard to the use of atropin, for a long time it has been my custom to give a hypodermic injection of atropin and morphin,  $\frac{1}{8}$ - $\frac{1}{4}$  grain of the latter and  $\frac{1}{150}$  of the former, half an hour before operation. Of course, it is impossible to say that it has prevented pneumonia, but it certainly has done good. The patient takes the anesthetic better, and there is less mucus in the throat.

Dr. McNaughton: In reply to Dr. Jewett I would say that the specimen was removed from the broad ligament. There was not much bleeding, but there had been intense pain. I presume that the specimen consists of part of the broad ligament and the tube. In regard to the pneumonia, no atropin was administered before the operation. I do not think, however, that the anesthesia was a factor in its development. I would like to suggest the possibility of its being due to atmospheric influences, for there were two or three cases of pneumonia in the hospital at the time. I think it would be well to postpone operation, whenever possible, during the present atmospheric conditions.

(At the request of Dr. McNaughton, the Secretary incised the cyst and found it to contain a fetus.)

#### ECLAMPSIA; ANURIA; COLONIC IRRIGATION—DEATH.

Dr. Charles Jewett: A. X., admitted to my service at the L. I. Coll. Hosp. at 10 A.M., December 25th; age, 23 years. The woman was pregnant at term. She had had several convulsions and was in a state of deep coma on admission. There was no

urine in the bladder. The child, which was dead, was extracted by forceps, with the aid of chloroform narcosis. A single convulsion followed delivery, the only one after admission. Maximum temperature  $102.2^{\circ}$ . On the second day the temperature was  $104.2^{\circ}$ , on the third  $105.8^{\circ}$ . Free sweating was obtained by the hot-air bath. Six ounces of blood were taken with cups over the kidneys. Calomel and jalap, Epsom salts, and finally a drop of croton-oil were given in succession, resulting in a single evacuation of the bowels. Two quarts of the decinormal salt solution were administered by submammary injection, and a quart thrown into the rectum. At six P.M. only three or four drams of urine had been obtained by catheter. Colonic irrigation with the salt solution was then again begun and continued for two hours. After an interval of two hours the irrigation was resumed and continued for two hours more. The temperature of the solution was  $120^{\circ}$  F. Eight ounces of milk were given by gavage. No urine was secreted, but the temperature dropped from  $104^{\circ}$  to  $99^{\circ}$  F. after the colonic flushing. It rose again to  $105^{\circ}$  on the following morning. The treatment was continued, but the woman remained anuric, and died on the third day after admission.

The case is of interest because of its resistance to all efforts to restore the action of the kidneys, and especially because of the failure of colonic irrigation faithfully carried out.

Unfortunately, this was a tenement-house case, and we know but little concerning the previous history of the patient.

I would like to learn the experience of the members of the Society with reference to colon-washing. You are all familiar with the work of Dr. Kemp, and the endorsement which his method has received from Dr. Dawbarn, Dr. Grandin, and others. They all seem to have found it more efficient than intravenous injection.

Dr. Alex. J. C. Skene: I am very much interested in the subject of filling up the blood-vessels with artificial serum, and, so far as my observation leads me, I believe that the other avenues referred to are very much safer than the intravenous method. Upon this point I am quite definite, but when it comes to the question of the great advantages which follow its use, I would not be so enthusiastic as those who have written recently upon the subject. It is difficult to determine how much value there is in it. For example, take Dr. Jewett's case, in which it failed, though it was employed with all the skill and persistence which should have brought good results. Now, suppose the results had been



different, and the woman had recovered, the case would have been put down as a great argument in favor of the method, yet it really would have proved nothing. This is the way in which we are led to false conclusions. I have looked carefully over the cases reported by Dawbarn, Hanks, and others, and while it would appear that the method is of value in cases of shock and hemorrhage following major operations, and that it is much superior to other methods of stimulation, I am not yet fully convinced that it will do all that is claimed for it.

I might refer briefly to a case in which I made a very thorough and completely mistaken diagnosis, being led astray in my investigation by two very important points—one, the history, and the other, the physical condition. The patient was a woman who was supposed to have passed the menopause. Some years before she had had a child, and had a bad kidney complication; so much so that it was deemed unwise for her to become pregnant again. She recovered slowly from her confinement, and was in poor health for some years. Menstruation had ceased three months before I saw her, and, as she was near the menopause, I assured her that she was not pregnant. One day she was seized with convulsions, and became comatose, after having had six violent convulsions, evidently uremic. The urine had not been examined for years. I obtained a specimen, and found it almost solid with albumin, upon subjecting it to heat and the nitric-acid test. At the request of the attending physician, and also as a matter of routine, I made an examination of the pelvic organs. The uterus was larger than normal, and it was as dense as any fibroid I ever felt in my life. It was smooth and absolutely globular in shape—indeed, so perfect was its rotundity that it was difficult to keep it between my fingers. It felt more like a fibroid than anything else, and its density and rounded form were remarkable. The cervix was soft, compared to the body of the uterus, but it was not as soft as the cervix of a pregnant uterus should be, nor was it as large as I would have expected. With the assurance that it was impossible for her to be pregnant, this was eliminated, and we treated her kidney trouble. The serum treatment was thoroughly tried, her blood-vessels being filled up with the solution, but in spite of all efforts the kidneys failed to act. After lying comatose for four days she regained consciousness somewhat, and began to have symptoms of threatened abortion. This took place, but even then the kidneys refused to act, and the patient finally died. If we add this case to that of Dr.

*Jewett* and the many others we know not of, we become a little *skeptical* of the rather extraordinary good results which have been reported as following this treatment. While acknowledging that this agent is of great value, it is not omnipotent.

*Dr. McNaughton*: I recently saw a case similar to the one reported by *Dr. Jewett*, in which the symptoms subsided after the use of the saline solution. We first took from the patient a certain amount of blood, eight or ten ounces, which we regarded as *toxic*. We then injected the saline solution directly into the *veins*. In these conditions the blood contains the toxic element, and it is entirely reasonable to suppose that the withdrawal of a portion of that fluid will at the same time relieve the system of a portion of that poison which is creating the disturbance. It should also be remembered that the loss of blood represents, in the amount of toxic material, a certain quantity of urine, fecal matter, and perspiration; and blood-letting is the quickest and safest way to relieve the body under such circumstances. By the mere saline injections you do not take away the poison, but merely dilute it.

*Dr. Jewett*: Nothing would seem more rational than to withdraw a certain quantity of blood, removing a part of the poison, and to refill the vessels with the saline solution. Not long ago I reported a case in which the patient, a young primipara, had convulsions after labor, with high temperature. Sixteen ounces of blood were withdrawn and double that amount of the solution was injected, but the patient died. This treatment, I think, at the hands of others, too, has proved disappointing.

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HISTORICAL DEPARTMENT.

GEORGE W. BAKER, A.M., M.D.

*Dr. Baker* was born at Richfield Springs, N. Y., May 20, 1837, and died at his home, 540 Bedford avenue, on December 5, 1898. His early education was received in the public schools of his native village, and in the Richfield Springs Seminary he fitted himself for entering Union College, from which he received the degree of A.B. in 1861 and A.M. 1864, and this same year he was a student at the College of Physicians and Surgeons, from which he received his diploma of M.D. He immediately offered

his services to his country, and became assistant surgeon to the Harwood and Stanton Hospitals at Washington, D. C. At the close of the Rebellion he settled in the Eastern District of Brooklyn, and soon became one of the leading physicians of this part of the city. He was an active member of the Hanover Club; Chief Inspector of the Metropolitan Board of Health, 1866; Medical Examiner of New York Life-Insurance Company, 1875; and Visiting Physician to the Eastern District Hospital.

He was also a member of the Medical Society of the County of Kings—Censor in 1875 and Vice-President 1880; member of Brooklyn Anatomical and Surgical Society; American Medical Association; New York Physicians' Mutual Aid Association; New York State Medical Society; and Kings County Medical Association.

In May, 1865, he married Miss R. Annie Russell, who still survives him, together with two sons, Willard F. and Dr. Frank H. Baker, who was a copartner of his father for some years before his death.

The death of Dr. Baker adds another name to the long list of medical martyrs. Persisting in ministering to others, when he himself needed ministering to, his system was unable to resist the terrible changes of our fickle climate, and pneumonia hurried him to an untimely grave. Thus history is ever repeating itself, though there are myriad sign-boards of warning along the track of time!

HISTORICAL COMMITTEE.

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### WILLIAM CARTER OTTERSON, M.D.

Dr. Otterson was born at Roslyn, L. I., September 17, 1828, and died at Long Branch, N. J., August 17, 1898. He was the son of the Rev. James Otterson, and brother of the late Andrew Otterson, M.D., a well-known Brooklyn physician. He received his preliminary education in the schools of Roslyn, his native town, and in 1850 entered the office of Dr. Andrew Otterson, and graduated in medicine, at the College of Physicians and Surgeons, New York, in 1853. From the time of his graduation until the breaking out of the late "Rebellion," he practised medicine in Brooklyn, but in December, 1861, he joined the United States Volunteers as Brigade-Surgeon, and filled a conspicuous part in the medical service of the army till the close of the war.

He served with Gen. Halleck at St. Louis; was Medical Director of the Army of the Southwest; had charge of the Military Hospital at Nashville; was with the Ninth Army Corps at the fall of Vicksburg, and with the Twelfth Army Corps in its historic march to the sea.

He was Deputy Commissioner of the Brooklyn Board of Health from 1886 to 1887; Sanitary Inspector, 1876 to 1877; and Chief of the Ambulance Service during the same period.

He was a member of the Medical Society of the County of Kings from 1866 to the time of his death; member of the New York State Medical Society and of the Brooklyn Medico-Chirurgical Society, serving as Secretary from 1861 to 1862.

He read several interesting papers before the Medical Society on military surgery and allied subjects, as follows:

"Diseases of the Camp, Their Causes and Treatment," 1863.

"Notes on Military Surgery," 1865.

"Therapeutic Uses of Water," 1883.

On June 14, 1867, he married Miss Josephine I. Curtis, daughter of Dr. Curtis, a well-known veterinary surgeon, who has since deceased, leaving a large estate from the manufacture and sale of "Mrs. Winslow's Soothing Syrup." She died July 22, 1876, leaving three children. Some months before Dr. Otterson's death he had a serious apoplectic attack, which greatly interfered with his professional work, much to the regret of his numerous friends and patrons, by whom he was greatly beloved.

HISTORICAL COMMITTEE.

### JAMES HARVEY HENRY, M.D.

The subject of this sketch was born at Rutland, Mass., on February 22, 1806, and died in Brooklyn, N. Y., November 1, 1875. his father was Silas Henry, and his mother Phoebe Pierce, both of Rutland, Mass.

Dr. Henry's early education was received at the Manson Academy, Mass., beginning the study of medicine at Rutland, under the preceptorship of Dr. Myrich of West Brookfield, Mass., and graduated M.D., from the Berkshire Medical Institution in 1827.

On September 22, 1834, he married Martha A. Mattoon of

Northfield, Mass.; his daughter, Sarah Henry, is the widow of the late S. C. Robinson, M.D., of this city.

Dr. Henry began the practice of medicine in Rutland, in 1827, remaining until 1843, when he came to the City of Brooklyn, remaining in practice in this city until his death.

From 1846-50 he was Attending Physician, Brooklyn Dispensary, and from 1855-65, Consulting Physician, Brooklyn Central Dispensary. He was a member of the Council, Long Island College Hospital, 1859-67.

His connection with medical societies was as follows: Medical Society, County of Kings, 1844-75; Censor, 1844-46, and President in 1850. Delegate to the New York State Medical Society, 1846-49, and to the American Medical Association, 1849 and 1860. He was Medical Examiner for the North American Life Insurance Company, and for many years a member of St. Luke's Church of this city.

WILLIAM SCHROEDER, M.D.,  
*Secretary of Historical Committee.*

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### NEW BOOKS AND BOOK NOTICES.

*All books received by the JOURNAL are deposited permanently in the Library of the Medical Society of the County of Kings.*

THE PRACTICE OF OBSTETRICS BY AMERICAN AUTHORS. Edited by Charles Jewett, M.D., Professor of Obstetrics and Diseases of Children in the Long Island College Hospital, New York. Pp. 768, 441 engravings, 34 of which are in colors, and 22 colored plates. Lea Brothers & Co., New York and Philadelphia, 1899.

The reviewer confesses his unfitness from proclivity and practice to furnish a detailed critique of the work under consideration. But it does not require the qualifications of an expert accoucheur to perceive the merits of this book or to give some idea of its scope and the manner in which the task has been accomplished.

Part I., anatomy, has been assigned to W. W. Browning. It is an unusually well written, well illustrated, and exhaustive description of the structure of the female pelvic organs and the mammary glands.

Part II. deals with the physiology of pregnancy. Under this heading one notes an exceedingly valuable chapter upon the diagnosis of pregnancy by R. L. Dickinson, whose previous work in this line enables him to present a most interesting, clear, and practical monograph, enriched with original sketches and a cleverly arranged chronological table of the signs

of pregnancy. Other chapters, by W. P. Manton and C. D. Palmer, in which menstruation, the development of the ovum, the duration, hygiene, and management of pregnancy receive consideration, are carefully studied contributions upon their respective subjects.

Part III., upon the physiology of labor, contains three chapters. Two of these, from the pen of the editor, are expository, one of the mechanical factors involved in the birth of the infant, the other of the management of normal labor. These subjects are presented in the well-balanced and luminous style of which Dr. Jewett is past-master. A. H. Buckmaster contributes the third chapter of this part, an excellent account of the clinical course of normal labor—graphic and true.

Part IV., upon the physiology of the puerperium, contains two chapters, one by Hunter Robb, upon the puerperal state and its management, a sensible and useful article; the other by E. H. Bartley, upon the management of the new-born child. The latter is of especial value, because of its full discussion of the very important subject of infant feeding, a topic upon which the writer of the chapter is particularly qualified to speak with authority.

Part V., upon the pathology of pregnancy, deals, as separate items, with diseases of pregnancy and the fetal appendages (J. H. Etheridge), multiple pregnancy (W. P. Manton), abortion and premature labor (H. N. Vineberg), and ectopic gestation (F. Henrotin). The names of the writers will be recognized as those of men who are thoroughly competent to handle the topics assigned to them in a most satisfactory manner. This part also affords two chapters by J. M. Van Cott on anomalies and diseases of the fetus, in part bristling with the unfamiliar names of teratology, but, as a whole, constituting a clear, comprehensive, and well-illustrated presentation of a difficult subject by a facile pen.

Part VI., upon the pathology of labor, affords thoroughly good contributions, in collaboration by J. C. Cameron and J. C. Webster, on anomalies of the mechanism; by Etheridge, Jewett, and J. C. Edgar, on anomalies arising from accident or disease, including the hemorrhages, eclampsia, and cardiac disease—helpful, practical, and of extreme interest.

Part VII., the pathology of the puerperium, takes the diseases of the breasts (Van Cott), puerperal insanity (A. McL. Hamilton), puerperal infection (J. W. Williams), a somewhat controversial, but absorbing article, and malformations, injuries, and diseases of the new-born child (H. D. Chapin).

In Part VIII., obstetric surgery, Robb writes upon the repair of lacerations, the induction of abortion, retained placenta, Cæsarian section, the Porro operation, and symphyseotomy; E. P. Davis on version and embryotomy; and Jewett upon the forceps.

It was the reviewer's intention on first examining this work to select those chapters which appeared worthy of special mention—usually not a difficult undertaking. But as each one was noted it soon became evident that the average degree of excellence was sufficiently high to make such distinctions particularly invidious. The inferences to be drawn from this fact are, in the first place, that the Editor has exercised good judgment in his choice of collaborators, and, in the second place, that the editorial supervision has been more than perfunctory—which was to be expected.

For instance, it is refreshing by contrast with a previous system, which, at the time it appeared, was the best of its kind, to find the extremely important subject of hemorrhage treated in such a manner that one need feel no difficulty in deciding upon the best methods of treatment—methods so clearly described and specifically recommended that they remain in the mind without haze of uncertainty.

In attempting to define the characteristics which, in the reviewer's judgment, make this the best book upon obstetrics in the market to-day, the following points may be noted:

It embodies in a well-balanced manner the latest teachings of the modern school, and, while thoroughly scientific in its manner and method, the trend of the book is toward the practical side, the art of clinical obstetrics. There is little, if any, writing for effect or for personal exploitation. The various contributions are well planned and clearly thought out. There is an ample use of black-face paragraph headings, which add so much to facility of consultation. There are sufficient cross-references, and for the most part, the pages are not cumbered with multiple literary references. The illustrations are numerous, many are original, color is used quite freely, and the old, familiar cuts which we have seen *ad nauseam* are conspicuous by their absence.

One may safely say that this System of Obstetrics embodies the best and ripest teachings of a department of medicine which appears to be rapidly evolving into a specialty. The man who acts as accoucheur in a perfunctory and slipshod manner may well read this volume and ponder upon the enthusiasm, the accuracy, and the skill, which are exhibited by those who have written it.

GLENTWORTH R. BUTLER.

KING'S AMERICAN DISPENSATORY. New edition. Entirely rewritten and enlarged. By Harvey W. Felter, M.D., Adjunct Professor of Chemistry in the Eclectic Medical Institute, Cincinnati, O.; and John Uri Lloyd, Ph.M., Professor of Chemistry and Pharmacy in the Eclectic Medical Institute, Cincinnati, O. Two-volume edition, royal octavo, each volume containing over 950 pp., with complete indexes. Cloth, \$4.50 per volume, postpaid. Sheep, \$5.00 per volume, post-paid. Volume I. now ready. The Ohio Valley Co., Publishers, Cincinnati, O.

This first volume of King's Dispensatory has been entirely rewritten, and includes in its classification the drugs from A to F. It is the standard dispensatory of the Eclectic School, first issued in 1854, is the eighteenth edition, third revision, and occupies the same relative position in the Eclectic school of medicine as the National or U. S. Dispensatories do in the regular profession. This edition preserves the original matter by Prof. King found in previous editions, and also most of the material pertaining to the older eclectic practice.

The aim of the revisers, however, has been to modernize the therapy of the book, and they claim to have striven to avoid commending excessive doses, though, as compilers, they have had to record large doses of some remedies.

The subject-matter of the book is arranged alphabetically as in the "National Dispensatory," each preparation being followed by U. S. P. if approved by the Pharmacopœia. Then follows a description of the remedy under the headings, "Botanical Source," "Preparation," "History," "Chemical Composition," "Action," "Medical Uses," "Related Species," etc.

The compilers have made liberal use of the U. S. Pharmacopœia and of the *Eclectic Journals and Transactions*. A great deal of the book is familiar reading to the regular practitioner, and, in fact, he would scarcely realize that he had wandered out of his own bailiwick unless he occasionally ran across some such therapeutic indications as, for example, those given under "Belladonna": "Dull, expressionless face; dilated or immobile pupils; dulness of intellect; skin soft, doughy, or pasty; copious passages of limpid urine; sleeping with eyes partially open."

The print and illustrations of the book are only fairly good; the paper and binding are poor.

J. B. THOMAS, JR.

**PATHOLOGY AND MORBID ANATOMY.** Green. Eighth American edition.

The changes made in the production of the eighth edition are so slight that an extended review is unnecessary. These changes are mostly confined to the introduction of new illustrations, and a rearrangement of the text, rather than to the introduction of new material. The coloring in the frontispiece is not all that could be desired, and many of the illustrations, especially those in the chapter on vegetable parasites, are not well selected. The illustration of a colony of the diphtheria bacillus, on page 332, although introduced into many text-books, never seemed to us to give a satisfactory idea of the original. It is to be regretted, inasmuch as the subject has been introduced, that more space has not been given to a working description of the preparation of culture media and of bacterial technics. The chapter on tubercle and tuberculosis is very good. Altogether, the eighth edition may be considered an improvement on the previous one.

E. H. WILSON.

**ADULT DIET-LIST.** Compiled by C. S. Millet, M.D. Tolman Press, Brockton, Mass. Price, 25 cents.

In this little book are bound sheets containing almost everything that is found on the table, and all that the physician has to do to regulate his patient's diet is to check the particular article which he consents to his eating.

**THE READY-REFERENCE HAND-BOOK OF DISEASES OF THE SKIN.**

By George Thomas Jackson, M.D. (Col.), Professor of Dermatology in the Woman's Medical College of the New York Infirmary, and in the Medical Department of the University of Vermont; Chief of Clinic and Instructor in Dermatology, College of Physicians and Surgeons, New York; Consulting Dermatologist to the Presbyterian Hospital of New York, and



to the New York Infirmary for Women and Children; Member of the American Dermatological Association, and of the New York Dermatological Society. With seventy-five illustrations. Third edition, revised, and enlarged. Lea Brothers & Co., New York and Philadelphia, 1899.

We have had already to comment favorably on the two former editions of this work, and take pleasure in again commending it. While it does not take the place of the larger treatises on the subject, still, as a manual for students, and a hasty reference-guide for the practitioner, it is unexcelled. The new matter in this, the third, edition, is important and well chosen.

S. SHERWELL.

A POCKET MEDICAL DICTIONARY, giving the pronunciation and definition of the principal words used in medicine and the collateral sciences. By George M. Gould, A.M., M.D. A new edition, entirely rewritten and enlarged, including over 21,000 words. Blakiston's Son & Co., Philadelphia, 1898. Price, \$1.00.

This is a veritable *multum in parvo*, and, unlike many books which bear the name, this can be carried in the pocket. Besides giving the pronunciation and definition of 21,000 words, it contains most valuable tables of the arteries, muscles, and nerves; of bacteria, and thermometric scales, besides a dose-list of drugs in both the English and metric systems. Especially valuable is the "Table of Clinical Eponymic Terms." From "Abadie's Sign" to "Zinn's Circulus," everything under this head will be found. How any physician can better invest \$1.00 we do not see.

THE REFRACTION OF THE EYE. A Manual for Students. By Gustavus Hartridge, F.R.C.S., Senior Surgeon to the Royal Westminster Ophthalmic Hospital; Ophthalmic Surgeon and Lecturer on Ophthalmic Surgery to the Westminster Hospital; Ophthalmic Surgeon to St. Bartholomew's Hospital, Chatham, etc. With 104 illustrations. Ninth edition. J. & A. Churchill, 7 Great Marlborough street, London, 1898. P. Blakiston's Sons & Co., Philadelphia.

One of the best evidences of the well-deserved popularity of this work is the fact that in less than fifteen years nine editions have been issued. The book may be regarded as almost a model of conciseness; scarcely anything of importance omitted, nothing superfluous admitted. It is stated on p. 78 that the ophthalmoscopic examination may conveniently follow the testing of the patient's visual acuity. Although this is a plan laid down in some of the text-books, yet it seems like "putting the cart before the horse." If an ophthalmoscopic examination is to be made at all, why not have it *precede* rather than *follow* the testing? For then the surgeon knows at the outset exactly the conditions with which he has to

deal, and, within certain limits, is enabled at once to take the needed glass from the trial-case.

Inasmuch as there is a growing tendency among some oculists to disregard the use of atropia in refractive work, and place their reliance upon the ophthalmometer and retinoscopy, it is gratifying to see the author express himself so clearly regarding his experience. On p. 102 he says: "I have worked out a great many cases of astigmatism, and feel more and more the necessity of using this drug [atrop. sulph.] to arrive at exact results. I might say that I have seldom seen a young person whose astigmatism has been worked out without atropine wearing the right correction; and the inconvenience entailed upon the patient for two weeks by its use is not to be compared to the trouble and asthenopia from which he is so liable to suffer if the glasses worn are not the proper ones." On p. 116 probably *compound* hypermetropic astigmatism was meant instead of hypermetropic astigmatism. The same correction applies to the tenth line, p. 174.

JAMES W. INGALLS.

A PRIMER OF PSYCHOLOGY AND MENTAL DISEASE. For Use in Training-Schools for Attendants and Nurses and in Medical Classes. By C. B. Burr, M.D., formerly Medical Superintendent of the Eastern Michigan Asylum. Second edition, thoroughly revised.  $5\frac{1}{2} \times 7\frac{3}{4}$  inches. Pages ix-116. Extra cloth, \$1.00 net. The F. A. Davis Co., Publishers, 1898.

Such a book as this may properly be reviewed from two stand-points: (1) As to its matter and style, (2) as to its suitability to its intended purpose.

In expression and style it is clear, concise, and simple; so that on this head it can be highly approved. It is also what it pretends to be as stated in the title. The subject is, however, approached from the old idea of psychology rather than from the physiological side, no real attempt being made to consider the senses, etc. As to how well this meets the needs of any particular place, must be decided by those in charge.

A late Brooklyn confrère was wont to facetiously remark that men passed their climacteric at 48-50 years of age. This writer seriously puts it down as 50 to 60 (p. 33).

The chapter on "Management of Cases of Insanity" is most excellent and judicious.

A brief glossary precedes the main text, and an address to a class of nurses closes it.

WILLIAM BROWNING.

ACROMEGALY. An Essay to which was awarded the Boylston Prize of Harvard University for the Year 1898. By Guy Hinsdale, A.M., M.D., of Philadelphia. Published by W. M. Warren, Detroit, 1898. Price, \$1.50.

This work should not be confounded with the same writer's prize-volume on "Syringomyelia," reviewed in the JOURNAL for January, 1898.

The various moot points are judiciously discussed. On the interesting question of the relation of gigantism to acromegaly, he rests with a citation of facts—the tendency of which, however, is to the conclusion that there is often a connection or identity between them, but that there is also a form of gigantism occurring independently.

The problem of the relation of the pituitary body to this disease is pretty fully discussed. He concludes that in all unquestioned cases that have so far come to autopsy, enlargement or disease of this structure has been found. Its increase seems to be *pari passu* with the development of the acromegaly. Inasmuch, however, as it is sometimes found enlarged without the presence of any acromegaly, it is hardly justifiable as yet to say that the gland causes the disease. A trophic influence, exerted through this gland and disturbing the equilibrium of nutrition, is also suggested by some.

A full description of an American giant, a bibliography of five and a half closely printed pages, and an index close the volume.

The whole is written in an easy, simple vein, and certainly is a most welcome monograph.

WILLIAM BROWNING.

**DISEASES OF WOMEN: A MANUAL OF GYNECOLOGY.** Designed especially for the use of Students and General Practitioners. By Francis H. Davenport, M.D., Assistant Professor of Gynecology in the Medical Department of Harvard University, Boston. New (third) revised and enlarged edition. In one handsome 12mo. volume of 387 pages, with 155 illustrations. Cloth, \$1.75, net. Lea Brothers & Co., Philadelphia and New York.

This manual has the value which comes from clearness, directness, and simplicity. It reflects, as a whole, the latest advances in the gynæcic art and is adapted to the needs of the student, and a handy reference for the busy practitioner. The essential facts are easily found, and their statements so concisely stated as to simplify rather than confuse—a failing so frequent in text-books of to-day. The author is justly entitled to professional recognition as a safe and wise teacher.

W. B. CHASE.

**THE SEXUAL INSTINCT: ITS USES AND DANGERS AS AFFECTING HEREDITY AND MORALS.** By James Foster Scott, B.A. (Yale University), M.D.C.M. (Edinburgh University). Pp. 436. Price, \$2.00. E. B. Treat & Co., New York, 1899.

Dr. Scott has, as he says, written a book which "contains much plain talking." It is a book intended for the non-professional man; to furnish him with thorough knowledge pertaining to the sexual sphere, knowledge which he cannot afford to be without. He deals with the sexual instinct and the importance of a just appreciation of its influence; physiology of the sexual life; a proper calculation of the consequences of impurity from the personal standpoint; woman, the unmanliness of degrading her; some of the influences which incite to sexual immorality; prostitution, and the

influences that lead a woman into such a life; regulation of prostitution; criminal abortion; gonorrhea in men and women; chancroid; syphilis; onanism, and the perversions.

The book is one which, if it reaches those for whom it was principally written, cannot but do a great deal of good.

**A MANUAL OF VENEREAL DISEASES.** By Jas. R. Hayden, Chief of Clinic at the College of Physicians and Surgeons, etc. Pp. 300. Lea Brothers & Co.

Dr. Hayden has given us, in the present volume, a most excellent and concise statement of the more important facts in connection with syphilis, chancroid, gonorrhea and its complications, and, although the author primarily intends the book for students, the practitioner will find a great deal of information in a form which is brief and quickly accessible.

The chapters on the care of urethral instruments may be commended to the notice of every practitioner and student, as giving directions for sterilizing instruments which do not require a laboratory or hospital operating-room to carry out, and which can be put to practical use in the office.

H. H. MORTON.

**ELEMENTS OF HISTOLOGY.** By E. Klein, M.D., F.R.S., and J. S. Elkins, M.A., M.B. With 296 illustrations. Revised and enlarged edition. Lea Brothers & Co., Philadelphia and New York.

Klein's "Elements" has been one of the standard text-books ever since its first appearance. His position as Lecturer on General Anatomy and Physiology in the Medical School of St. Bartholomew's Hospital has been one in which he has had abundant opportunities to know what students need, and are able to digest and assimilate. In this edition we find, as we should expect, considering that the previous edition appeared in 1898, much that is new. In this new material are included the progress in the knowledge of the structure and life of the cell and its nucleus, and the remarkable discoveries in the structure of the central nervous system and sense organs, made through the labors of Golgi, Ramón y Cajal, Retzius, and others.

**ANNUAL AND ANALYTICAL CYCLOPÆDIA OF PRACTICAL MEDICINE.** By Charles E. de M. Sajous, M.D., and one hundred associate editors. Illustrated with chromolithographs, engravings, and maps. Vol II. The F. A. Davis Co., New York, Publishers.

This valuable volume deals with a number of subjects of interest to the student and practitioner. It will be impossible to review all the articles at this time.

We desire to direct attention to the practical and learned dissertation on cerebral hemorrhage, by Dr. William Browning of this city. It is a

subject which has heretofore not received the attention its importance seemed to demand.

Long since the work of this author in similar lines has been favorably received by the medical world. We must confess amazement, however, at the placid and self-complacent way in which the results of his investigations with regard to the spinal efferents for the cerebrospinal fluid have been passed over in some quarters. They certainly deserved most distinguished consideration. They marked a real and important advance in our knowledge.

To return to the article in question. It is thoroughly logical, the condition is defined, and the symptoms given in minute detail. The question of differential diagnosis is extensively handled, also etiology and pathology; and so we are carried along to the treatment. Here the student will be comforted by finding a clear exposition of a rational method of handling the condition. The measures to be employed are taken up *seriatim*, and discussed in a manner which is very pleasing. They give the practitioner no uncertain ideas, but tell him plainly what is to be done, and how to do it.

We congratulate the author on his skilful study of an abstruse subject. The volume will be of great service to us all.

THE PHONENDOSCOPE AND ITS PRACTICAL APPLICATION. By Aurelio Bianchi, M.D. Translated by A. Geo. Baker, M.D. 37 illustrations. Geo. P. Billing & Son, Philadelphia. Price, 50 cents.

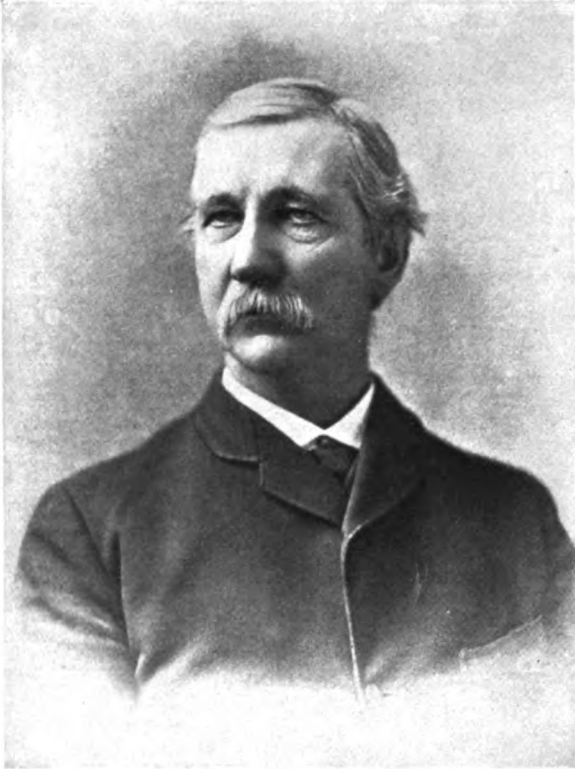
We have here a full description of the instrument and its practical application. The illustrations are numerous. One would think from the statements as to the capacity of the article in question for diagnostic purposes that nothing more was to be desired. We fear that they will not meet with universal approval. We are again reminded of the sympathetic bond between the organs of hearing and the seat of the emotions.

THE AMERICAN YEAR-BOOK OF MEDICINE AND SURGERY. Under the general editorial charge of George M. Gould, M.D. Illustrated. W. B. Saunders, Philadelphia, Publisher.

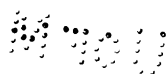
To condense the results of the advances during the past year made in all departments of medical science is the task this volume attempts to fulfil. To bring these together in a single volume, to index such a volume, and produce one, not so large as to be unwieldy, is, to say the least, a most ingenious accomplishment. The result has justified the undertaking. A useful, readable, reliable, handy, up-to-date work of reference is thereby added to the library of the student.

We note with pleasure that the Medical Society of the County of Kings is brought forward as an important factor in the scientific work of the day. Its proceedings are largely quoted from. The importance of its position thus acknowledged will be a source of gratification to its many supporters and admirers.

May



**WILLIAM CARTER OTTERSON, M.D.**







JOHN A. ARNOLD, M.D.  
P. L. SCHENCK, M.D.

THOMAS TURNER, M.D.  
R. CRESSON STILES, M.D.

TUNIS SCHENCK, M.D.  
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Resident Physicians, Kings County Hospital.



# THE BROOKLYN MEDICAL JOURNAL

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## ORIGINAL ARTICLES.

*No paper published or to be published elsewhere as original will be accepted in this department.*

## STATIC ELECTRICITY.

BY FREDERICK J. SHOOP, M.D.

Read before the Medical Society of the County of Kings, November 15, 1898.

What is electricity? As Science fails to give us a satisfactory answer on this point, we must be content with the statement that it is a latent force, or a force in a state of equilibrium, pervading all bodies and space, and, while in this neutral state, is not appreciable by any sense we possess; but, bring to bear some disturbing influence on this neutral state, then electricity is capable of manifesting itself to our senses in a variety of forms, differing according to the character of the invading disturbance. For the sake of classification and study, the term electricity has been applied to its manifestation.

Just as we have the element carbon represented in chimney-soot, charcoal, plumbago, graphite, gas-carbon, and diamond, differing so markedly in their physical appearance, yet all being the one chemical, carbon, so electricity appears to us as galvanic electricity, magneto electricity, magnetism, the aurora, and light-

ning or static electricity—all widely differing in their physical properties, and somewhat in their effect on whatever comes under their influence—yet all being manifestations of that one latent force, electricity, and each capable of being converted into one or another of the other forms or manifestations.

The static electricity is the earliest form which engaged the attention of experimentalists, and enjoyed that monopoly from 700 B.C. down to the close of the Eighteenth Century, when Galvani's discovery laid it, for the time being, to one side. It was first produced from amber, or *ηλεκτρον*, from which electricity derives its name, by rubbing the amber with a cloth; later from friction of the hands or a piece of cloth on a sulphur globe; later on glass cylinders; and finally with catskin on the revolving glass plate, the prototype of the improved Toepler-Holz machine now in use.

From 1790, the time of the discovery of Galvani, until the present generation, static electricity had been considered of little value, except as an interesting phenomenon, which could be made use of in experimentation only when atmospheric conditions were favorable to its production.

So much has been accomplished by the galvanic and faradic currents for mechanics, the arts, and therapeutics that the majority of physicians even now, with all the improved appliances and mechanism for producing and employing this form of electricity at their command, practically independent of atmospheric conditions, fail to appreciate its worth, yet it will not be surprising to some of us if static electricity will not prove to be the most universally used in all branches of science in which electricity can be used, when Edison, Tesla, or some worthy disciple of one of those giants of intellect discovers a more complete mastery and control of this interesting phenomenon.

Now, let us consider for a few minutes, its application in therapy.

When we speak of a body being charged with positive or negative electricity, we mean, not that there are two kinds of electricity, but that the body, having had its electric neutrality disturbed, becomes possessed with a greater or a less amount of electricity under a tension or strain; and when an electrode or any object is brought near to or touching that body so charged, a disruption of the tension, or strain, results in the form of a spark or breeze, and the electric equilibrium is restored.

If this procedure is carried out on a living body, the organism receives an impression in the process of this disruption, which, if

repeated rapidly for a space of time, produces a result beneficial or baneful to the living economy, according as it is controlled.

1. There are several methods of applying static electricity, depending on the effect which one desires to produce; the first and simplest is, the seating of the patient on a platform that is insulated by means of glass legs and connected with the prime or positive conductor of the generating machine. The patient is thus charged heavily with the positive electricity which is very slowly drawn off by the surrounding atmosphere, producing a mildly sedative effect. This is called the static-electric bath.

2. The second method is, to approach the patient thus charged, with the brass-point electrode connected with the negative conductor, holding it a few inches away, and withdrawing the charge in the form of a strong breeze, feeling to the patient as if a wind were blowing on the part to which it is applied.

The head-piece electrode, the wooden ball, and wooden point are modifications or variations of this method of application. The sedative effect is more decidedly sedative and more localized than the bath, being especially useful about the face and head.

3. If the brass-ball electrode be used instead of the point, and brought within a few inches of the body, a succession of sparks is withdrawn; these sparks are intensified by connecting the outer coatings of the Leyden jars, which hang suspended from the conductors, and are stimulating to the spinal and visceral nerve centers, and also have more or less of counterirritant effect, and stimulate the circulation of blood.

4. If the ball or roller electrode be rubbed over the surface of the body with a thin layer of the clothing between the electrode and the skin, the succession of very fine sparks becomes similar to a current in effect, and excites muscular contraction, increased circulation of blood, and warmth to parts over which the electrode is rubbed, and produces also a certain amount of sedative influence or pain.

5. Seating the patient in an ordinary chair, or placing him on a table or couch, uninsulated, and applying, to the bare skin, wet sponge-electrodes, connected with the outer coating of the Leyden jars by means of insulated cords, and sliding the discharging-rods within a fraction of an inch of touching each other, so that sparks pass between the ends in rapid succession, then a current is produced similar to the faradic, and is called the static-induced current. In many respects it is far superior to the faradic current

in producing massage of the muscles and stimulating their nutrition.

Only in the use of the static-induced current is it necessary to expose the skin; in all the other applications there is no necessity for disrobing—a saving of time for the doctor, and a saving of annoyance to the patient.

In what cases is the static electricity applicable?

In almost all diseases or derangements where any form of electricity is indicated other than where the cautery or the electrolytic effect is desired. Prominent among the affections the writer treats at his office are: Muscular rheumatism, intercostal neuralgia, wryneck, muscular paralysis, muscular atrophy, facial neuralgia, gastralgia, enteralgia, ovarian neuralgia, atonic dyspepsia, constipation from atony, headaches, uterine pains, menstrual pains, pain anywhere, insomnia, depressed heart action, tobacco-heart, gymnasium-heart, cold extremities; sprained wrist, ankle, knee, and other joints; nervous debility, melancholia, neurasthenia.

A few cases selected here and there may prove interesting and serve to illustrate the use of the static electricity and the effects produced.

CASE I.—Miss H., a patient in my house, aged forty-five, nervous, troubled with insomnia, in connection with some other conditions for which she was being treated. Placed the patient on the insulated platform, and let the head-piece down within four or five inches of the head, and administered the static shower-bath for ten to fifteen minutes, followed by static spark to spinal-column for two minutes—effect, a good night's sleep. This treatment was given each evening while she was under my care, with very satisfactory result.

CASE II.—Mr. B. F. C., aged about fifty-five, troubled occasionally with facial neuralgia affecting the right orbital region principally, the pain gradually ascending or spreading over the top of the head. Attack usually comes on after some unusual business strain, perhaps twice or three times a year, and is described as a severe pressure and throbbing pain, at times sharp and shooting. Static breeze from brass-point or from wooden ball was applied for ten minutes. No effect apparent at the time, but within one-half hour the pain begins to lessen, and is gone within one hour after the electricity has been applied.

This is always the effect in his case. Sometimes he comes in

as soon as the attack comes on, sometimes he lets it run a day or two days before coming to me.

CASE III.—Mrs. M. S. became overheated, sat in a draft, awoke next morning with a stiff neck or wryneck, which was very painful. Patient had had one or two attacks of wryneck in years previous to this one, which had lasted two weeks under ordinary treatment. Applied static spark five minutes, followed by the modified breeze, using the wooden ball for ten minutes. Improvement showed right away. Repeated the application next day; on the third day all soreness and stiffness were gone.

CASE IV.—Miss E., aged thirty-five, suffering from gastralgia after every meal, usually beginning one-half hour after meals and lasting from one to two hours—gaseous eructations. Gave no medicines. Applied static spark over solar plexus for five minutes, over dorsal spine for five minutes, and again over solar plexus five minutes. Repeated this procedure every third day. After fifth or sixth application, case was cured, and there has been no return of trouble since—that was seven years ago.

CASE V.—Mr. F. S., aged thirty-three, after a heavy fall of snow, for want of a little exercise, took a hand at the snow-shovel to help clear the walk. Next morning found muscles of back and lumbar region sore and stiff. Applied static current or fine sparks by means of brass roller rubbed over back for ten minutes, with immediate improvement, and a second application that night completed the cure.

CASE VI.—Mr. J. W. K., aged twenty, a victim of the cigarette habit, irritable, nervous, smoked three or four packages a day and smoked pipe at night, has smoker's-heart. Applied static, modified, breeze, with wooden ball, over the course of pneumogastric nerves in neck, ten minutes, static spark to whole length of spine five minutes. Repeated every third day; withdrew privilege of smoking at once, and gave one-eighth grain ex. can. ind. night and morning. After one week stopped can. ind. and continued electricity one week longer. Cured. Has never smoked since and feels well.

CASE VII.—W. F. B., aged eighteen, practising in gymnasium, fell from the horizontal bar, striking on his left foot, which doubled under him, causing a severe sprain of the ankle. When called in to see him, the ankle presented the typical appearance of sprain, tumefaction, discoloration, excruciating pain, relieved somewhat when foot was elevated, but becoming unbearable when let down to floor. Applied hot fomentation, and told his father

to bring him to the office next morning for electricity. He came in, still unable to put foot to floor. Applied static spark ten minutes; he walked out of office without a limp, and by evening there was no pain or soreness.

CASE VIII.—Mrs. E. H., aged forty, was participating in a parlor-game of "spinning the plate," twisted on foot, sat down suddenly, causing a typical sprain of the ankle. She was brought at once to my office, less than an hour elapsing between the time of the injury and of reaching the office. Applied static spark ten minutes (not as strong as I wished, as she insisted she could not stand it), used spray five minutes. Repeated this the next morning, hot fomentations used during the night. She walked, with some limping, to the car; she lived out of town. One week later she came to the office, still some soreness, and a little limp showing. One application of the spark removed this entirely within two or three days. Ankle apparently as strong as the other now.

CASE IX.—Mr. V. K., aged twenty-one, had had leg cased up in a splint for knee-strain for a number of months, until muscular atrophy was well marked, the thigh being about two-thirds as large as that of the other leg. Applied static-induced current by means of wet-sponge electrodes along course of principal nerves in thigh from hip to knee. At first muscular contractions were barely perceptible, but after two or three applications, twice a week, the contractions became more powerful, limb began to show signs of increased nutrition, and in three months little difference could be seen in size of thighs, and what little pain had been about knee, after discarding walking-splint, was gone.

Of course, as with any of the remedies, medicinal or otherwise, there are exceptional cases, which are not benefited by its use. There are other cases which do better under galvanic treatment. Sometimes static electricity as an adjunct to medicinal treatment gives better results than when either is used alone.

When we learn more about electricity we shall be able to make better use of it. Whether it will ever do away with other remedial agents altogether, is a dream far too visionary for our present consideration.

146 So. Portland Ave.

#### DISCUSSION.

Dr. Snow: I do not feel that the doctor's remarks are any too strong, for among those who are familiar with the use

of electricity, cures and reliefs are effected in a class and number of cases, which would undoubtedly stagger the general profession to believe. It is done, we know; but the question is, How is it accomplished? Personally, I believe it is performed mechanically. I do not believe the effect is accomplished by any other than the electrical current. Every spark drawn from the patient's body is a miniature speck of illness, if you please. In the practice of Dr. Morton, with whom I have done considerable work, patients often hobble into the room, suffering from sciatica or rheumatism or neuralgia, and after a short period on the platform will leave the room without a limp or a pain. The results are simply wonderful, and the patients are much impressed with the static treatment given them. I say these things from my own experience and my observations in the experience of Dr. Morton. In his cases they can't but yield; they nearly all yield. Nearly all his patients are cured or relieved in from seven to fifteen treatments. There may be a good deal of doubt expressed as to the truthfulness of this statement, but it can be verified, nevertheless.

In a sprain the ligaments are torn, separated or wrenched, and we are able to relieve every case early by the use of static electricity. In a case where there is a solution of continuity we must expect the results will not be as rapid as otherwise, because the union is slow. The most stubborn cases of lumbago yield to static electricity, and why? I'll tell you why it is. Static electricity tends to restore the equilibrium of the system. As I have said, or rather intimated, before, that every molecule of electricity does specific work, so it is that absorption is promoted and the various functions of the body restored to their natural order. This is done in a mechanical way. Many eminent men, among them Dr. Morton, speak as I have done. The spark must be drawn from the surface of the body; this is a most important point. Electricity covers the body of the patient like a homogeneous mass or veil, and, of course, always takes the shortest course to the ground. If the physician occupies the opposite state it must take place, and the electricity must pass through the body of the patient to the electrode, thence to the ground. Dr. Morton has proved beyond question that such is the case. It is when the agitation is early that the most beneficial effects come. I do not know of anything that gives more encouragement in the treatment of rheumatism or rheumatic arthritis with deposits in the joints than the process of agitation induced by the static current. I am very sorry, in-



deed, that the medical profession are so skeptical on this subject. I think the study is making advanced strides of late years, and I am sure that soon all the profession will look upon electricity as an indispensable aid to their practice. I believe and hope for that, and the remarks that I have made are born of experience and practical application. I may be criticised and censured for my views, but such I believe to be the case. I am grateful for the courtesy you have extended in asking me to speak upon this subject.

Dr. Shoop (in closing the discussion): As to the kind of neuralgia likely to be helped or cured by the static machine—on the head or face, only such as arise from a nervous strain, cold, traumatism, or disordered stomach, certainly not a genuine attack of *tic-douloureux*, nor where a tumor or growth presses on a nerve-tract or trunk, though the latter may receive a temporary palliative effect. Nor can you cure the gastralgia due to cancer of pylorus, nor the pain of a passing gall-stone or renal calculus, nor an ovaritis due to a fibrous contracted ovary. But the ovaritis from congestion of the ovary or from a traumatism in lower pelvic region will be helped or cured.

As to the element of time curing the sprain irrespective of the use of electricity—those cases which have the ligaments badly lacerated or torn naturally do not yield as readily as when the traumatism is slighter, but when such cases are put in splint or plaster-cast and left to time the most authorities state that four to six weeks are required to effect cure, and then the ankle is weak from non-usage of muscles for so long a period. With the use of electricity, and allowing patient to use foot, the ankle recovers in from twenty-four hours to two weeks in almost every case.

The withdrawing of tobacco at once might help to reduce irritability of the heart with no other help, if the patient could or would stand it, but few have the moral courage or strength to stand such a course. The cannabis indica helps to relieve the craving. The electricity tones up the shattered nervous system. The drug is dispensed with at the end of one week, and the electricity continued a while longer to put the heart and nervous system in good condition. Of course the electricity does not destroy the ability to again enjoy the use of tobacco, but if one desires to quit its use, electricity will enable him to do it and to gain in health under treatment.

## ELECTRODES AND ELECTRICAL DEVICES.

BY LUCY HALL BROWN, M.D.

Read before the Medical Society of the County of Kings, November 15, 1898.

To begin with, I would like to state that the several electrical appliances I have here this evening are of my own devising. I find them practical use them continually, and believe you will be interested in them. The first device is this "combination ball-and-point electrode," for use with the static machine. In the early days of static machines the electrodes were many in number, but in this single electrode all their uses are combined. Any one who has used the older forms of electrodes will not fail to recognize the vast improvement and convenience afforded by the use of this combined one. It is made of an aluminum rod, tipped with a steel point at one end and a brass ball at the other—the whole being nickel-plated and very light to handle.

Another thing I devised was this static-machine brush. The old-style electrode used to administer the spray was a disk, having on its surface several projecting points. This was never satisfactory, and now you seldom see them. There was always great danger of the patient receiving a spark at any moment because of the comparatively few points from which the current could pass from it to the patient, but with this improved brush-electrode, having no less than 300 points, the current cannot accumulate sufficiently to give off a spark. All the dealers now carry these electrodes. I have here one of the old-style crowns, which was arranged to hang over the head of the patient when administering static bath. It contains a good deal of metal and few points, <sup>the</sup> that there was always danger of a spark jumping from it to the patient's head. I substitute this heavy crown by one of these light wire brushes, and obtain much better results without the danger of a spark. Its lighter weight is another obvious advantage.

The next thing is this adjustable stand, by means of which a patient can receive the spray without the attendance of the doctor. The wire brush or the combination electrode is firmly held in position. It can be raised or lowered to the shoulders or the small

of the back, or any part of the body. The patient, sitting on a stool, has time to regain confidence. You can start the static machine and give her the spray if she wishes it, or it can be turned around and you can give the spark. This device has been adopted by all operators and manufacturers of static machines.

Early in my use of galvanic electricity I came across this electrode in New York. It was the best I could find at that time. It is made of wire-gauze, with the edges turned under, and a clumsy binding-post soldered to the upper side of it. I applied it and burned some twenty inches or more of my patient's cuticle. I sent her home with salves and ointments. I cannot comprehend how any one could make such a thing as that. The ragged wire edges were a continual source of trouble and danger. My first improvement was to secure a binding-post in which there should be no screws to get loose or lost, and I devised this spring-tip, which has since been formally adopted by the electro-therapeutic societies as the standard.. The next thing was to find something better than the gauze, and this I found in a very thin, perforated brass sheet, that can be had at Patterson Brothers, on Park Row, Manhattan. It is a little stiff and unyielding but when brought to a cherry-red heat by placing it over a Bunsen burner, and then dropping it into a pail of cold water, it becomes very flexible and accommodating. The metal can be easily cut to any shape with a pair of shears, but it should not be cut straight through the line of perforations, because it will leave a ragged edge, but follow the line of perforations and trim off the little points as you go. A little strip of corrugated brass is then soldered on top to receive the split tip at the end of the conducting cords. These flat electrodes and cord tips can be had of Jerome Kidder M'fg Co., 820 Broadway, and of other dealers in New York.

For ordinary uses I have the electrode covered on one side with piano-felt. When this felt is first purchased it contains oil and that has to be gotten out. This can be accomplished by boiling it in a sal-soda solution. The felt is pretty thick and is cut somewhat larger than the electrode. It should be sewed to the perforated brass in such a manner that the thread shall not pass entirely through to the under side of the felt, because the thread being of greater density, will carry the current better, and so prevent an even strength of current over the entire surface of the felt. This seems a small matter, but, in fact, it is quite an important one.

If we have occasion to use a heavy galvanic current, it is pref-

erable to use for an electrode a piece of this material, which is commonly known as spunk. When it is wet it will take up a large amount of water, and when it is applied to any surface it accommodates itself readily. It holds on to its bulk of water, not losing any of it. It is rather difficult to obtain pieces large enough in this country; occasionally they are to be found at the wholesale druggist's, corner Eighteenth street and Third avenue, Manhattan.

Next we will consider a contrivance for keeping electrodes warm. Any one who uses electrodes knows how very unpleasant a cold electrode is to a patient. My method is to soak four or five of these flat felt-covered electrodes in warm water, and then place them in this electrically heated oven, which will keep them just warm enough. The oven consists of an agate-ware pan set in a square tin box, which is lined with asbestos to retain the heat, which heat is derived from two ordinary Edison lamps laid on the bottom of the box and under the pan of electrodes. This little window at the side of the box shows at all times whether the current that heats the lamps is turned on or not. There are small holes in the cover of the box or oven to permit of ventilation.

We now come back to the conductor-cords. I have made some improvements in these. I have them covered with thin rubber-tubing, one of red-colored rubber and one of black, so that I know at all times which is which.

The ordinary cords, as you know, are covered with a simple silk or cotton covering. When these get wet, as they do, and come in contact with each other, a short-circuiting of the current is the result. To be obliged to handle a damp cord when using the faradic current is extremely disagreeable to the one handling it. With these rubber-covered conductors there is no danger whatever, and, another thing, they can easily be cleaned and disinfected.

Before closing the subject of rheophores, I will explain the uses of these short ones. They are one foot in length. I devised them because I frequently have patients where I want to change from the galvanic to the faradic current, and vice versa. With these cords I can make the change without disturbing the patient, and this is a great convenience. It is also useful when one wants to use two electrodes with one pole.

This little searchlight is connected with the ordinary street current, and is mounted on this adjustable stand, which permits the light to be raised or lowered, or turned in any direction. The

lamp is arranged behind the condensing-lens that comes with the ordinary microscope. You are able to bring this light to the operating-table and examine parts at close range. It is very valuable in vaginal work, through the speculum, and in operating in any cavity. It gives out a bright, white light, as you can see. The filament of the lamp is made in the form of three small loops, very close together, so as to confine the light to one spot. They screw in place on the same principle as the ordinary Edison lamps, so that it is an easy matter to make renewals. This particular lamp has now been in almost daily use for a year past; it gives out a light equal to eight candles.

This is a little electric heater. It is not only useful and handy in a doctor's office, but it is also very valuable in any family. It can be put in use wherever you have access to the street current. It consists of this little wire cage, which is covered with thin felt, and inside the cage is fastened an ordinary 16-candle-power Edison lamp.

In uterine colic it is invaluable. It can be placed in a crib or on a sofa or in a cold bed. It supplants the old water-bag.

I have here a little apparatus for heating Thiersch's or any other solution. You can thus keep your solution warm, so that it is always ready for use. You can drop your instruments directly into it. It consists of an ordinary glass jar, in which is placed the bulb of a 16-candle-power lamp. All the metal parts are carefully covered with rubber, so that there is no danger whatever of the solution becoming affected by coming in contact with the metallic parts.

The air-compressing pump in my office is arranged to work by means of a small electric motor. It is a great improvement over the old method. The handle is removed from the piston-rod and the rod is attached to a crank, which crank carries on its shaft a rather large wheel, and this wheel is belted to the motor-pulley. The pump, which is of the ordinary style, is screwed to a piece of board, to the under side of which is fastened an ordinary door-hinge, and this hinge in turn is screwed to the floor. By this arrangement the pump is not only secured to the floor, but is permitted the rocking motion necessary when operated by a crank mechanism.

The last device I have to show you is this electrode, which may be wound around a finger or toe. It is a thin strip of pure tin, about three-quarters of an inch wide and six inches in length.

To one end of it is soldered the device for making connection with the conductor-cord. I lay a piece of absorbent cotton or strip of felt on the electrode, and then wind it, like a piece of tape, around the member I wish to treat.

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## THE ACTUAL SCHLEICH NARCOSIS.

A. F. ERDMANN, A.B., M.D.,

Assistant to the Chair of Gynecology, Long Island College Hospital.

The writer has used the Schleich Solutions for general anesthesia in fully seventy-five instances. Most of these administrations took place in the course of his regular duties at Dr. Skene's sanatorium, others in hospital demonstrations, a few in office and private practice.

The patients were representatives of practically all classes of people. There were those who were in good physical condition, who needed, for instance, only a simple curetting; there were those who showed the cachexia of cancer, and came to be cured or else to die. Several were bad alcoholics; two were of unsound mind; one was a pronounced epileptic. They came from various grades of life: the highly cultured, the ignorant, the leisure, and the working class. Old, young, large, small, rich, poor, phlegmatic, nervous, may be written after different ones. Four were suffering from organic kidney lesions, several from structural heart disease. In short, the number, though small, is made up of a sufficient variety of kinds and conditions to allow the claim that it is representative.

The list of operations includes both -ectomies and -otomies, amputations, explorations, and examinations; cases which were considered to be "easy," and others which were extra-hazardous—enough of the different classes to cover, in the main, the whole range of surgery, at least in the varying degree of operative severity. Exception must be made of those operations which are extremely liable to anesthetic accident. Neither does this list include a sufficient number of those minor cases for which only a short period of insensibility is required, to give reliable data for a judgment upon the efficiency of the No. 1 Solution for

office-work. As an example, mention is made of an essay to use the No. 1 for an office-case which was presumed to require the anesthetic state for only a minute or two. But the case proved to be so complicated that the supply of the No. 1 was exhausted, and the more profound effect of the No. 3 had to be displayed. The consequence was that the patient behaved as after an ordinary narcosis. However, another patient, who inhaled only the No. 1 for a half-hour, walked about without any signs of nausea or weakness within a half-hour after the discontinuance of the anesthetic. Schleich cites a similar experience in his latest edition of his "*Schmerzlose Operationen*," p. 66.

In general, the full time of narcosis was fifty-two minutes; the longest period was one hundred and twenty minutes, for which time there were required fifty-six drachms of the No. 3, and, because the supply of that was insufficient, six further drachms of sulphuric ether; the shortest period was one of twenty-six minutes, which required twelve drachms of the No. 3. The average time necessary to induce full surgical anesthesia was a fraction less than eight minutes; the longest time was twelve minutes—a very large woman with an alcoholic history; while the shortest time was three minutes—a small, yet well-developed but highly nervous woman. The average quantity necessary before beginning the operation was a trifle less than six drachms. One patient required three drachms; none more than eight. The following is a list of the quantities exhibited in the earliest moments of the administration; the first figure represents the time in minutes, the second the quantity in drachms: 20, 8; 15, 8; 16, 7; 17, 9; 10, 8; 25, 9; 18, 12 (this case required thirty drachms for eighty-nine minutes); 15, 7; 21, 8; 35, 11; 11, 6; 18, 7; 12, 4; 16, 14; 23, 8½; 18, 8; 28, 9; 15, 9; 19, 7; 20, 10; 19, 6. The length of the stage of recovery was noted in only a few instances; this part of the records, therefore, has no value, and is omitted from this report. Still, it has been observed that the time usually is no less than that of the recovery after an ether narcosis; if anything, a trifle longer, perhaps. Yet, it is certainly true that the awakening is more rapid, when once begun, as well as more pronounced. Two striking instances of this were noticed in some cases at the Kings County Hospital, at the time when Dr. Bristow's courtesy privileged the writer to demonstrate the use of the Solutions at that institution. These two men, within less than half an hour after the discontinuance of the anesthetic could not be distinguished

from the other occupants of the ward. Their rapid recovery was a great surprise. Several patients manifested marked cardiac and respiratory symptoms. The following series of figures show these variations better than words. In each set the first figure is the rate at the beginning of anesthesia, the second is the rate when anesthesia was established; the others the rate during the course of the operation:

Pulse—104, 60, 72, 78; 96, 54, 75; 78, 72, 90, 72; 102, 87, 120, 104, 84, 96; 72, 84, 108; 100, 72, 84, 66; 90, 108, 114, 120; 72, 90, 88. Respiration—40, 36, 42, 48; 36, 30, 48; 24, 30, 24. Undoubtedly some of the cases would have shown more equable rates if they had been given plain ether. The change could have been made easily had it been desired. It is the writer's custom now to give the No. 3 tentatively at the beginning of the narcosis, and then to change to either chloroform or ether, according to the choice in the necessity. No. 2 is never used. Nq. 1 is still *sub judice*. In most of the cases included in this report there was none of these ranges of change. The pulse, if quick at first, usually becomes quiet and steady; many times there is such a reduction in the rate as to remind the observer of what has been termed the characteristic pulse of a chloroform narcosis.

Much disappointment has been felt because the results claimed by others in reporting the relative infrequency of post-anesthetic emesis have not been obtained. As the cases are reviewed, the records show that only a very small proportion of the patients escaped this unpleasant *sequela*. This much, however, may be said, that the reference includes every slightest act of vomiting; that in only two instances was there any of the real severe vomiting, which is dangerous, as well as unpleasant. One of these two was a patient addicted to the morphia-habit; in the other the cause was purely reflex, for the relief promptly followed the removal of an intra-uterine packing. Schleich says (p. 66): "It seemed to us that the patients always appeared brighter and wider awake than after chloroform or ether. Emesis was as frequent as with those. Certainly not more frequent." This again may be said, that the solutions prepared with the petroleum ether manufactured by Merck act more satisfactorily in this regard, as well as in other ways. The general custom of anointing the face has not been followed; and in only one instance was any irritation of the face observed. This patient complained of a burning smart, over the malar regions particu-



larly. A decided hyperemia was observed which resembled a mild sunburn. Yet, even on occasions when the anesthetic fluid came into actual contact with the face, as happened several times while trying new styles of inhalers, nothing more than a very slightest kind of a cauterizing effect was noticed, and this was quickly effaced, even before the operation was completed, by applying a film of Unguentine.

Several cases manifested double-divergent strabismus, which persisted for a part of the period of recovery. One patient persistently moved her feet during the entire time of the operation. Hysterical symptoms were repeatedly prominent during the early moments of awakening. In several instances these closely resembled those erotic states which are mentioned in medico-legal text-books. There is a difference of opinion among those who observed the recovery of most of the cases as to the presence and continuance of that choking thirst which so often annoys most patients; this is so, also, regarding the taste and odor. However, it is the writer's recollection that he has been noticing all these three much less than when he was using ether alone. With reference to the important effect of the solutions upon the kidneys, there are, unfortunately, but few records of the uroscopy available. In some half-dozen cases which were carefully observed it was found that there was usually a slight decrease in the urea. Lyman ("Artificial Anesthesia and Anesthetics," p. 135) reports Kappeler as having made this same observation after chloroform. In one case there was an increase in the urea; in another no change. Generally, some trace of albumin was found. But as no check-analyses were made, the record is admittedly unsatisfactory. Clinically, the disastrous results prophesied by the laboratory experiments of Thompson and Kemp (*Medical Record*, Sept. 3, 1898) have not materialized. Many of these patients have been kept under observation for some time *post operationem*; up to date neither the convalescence nor the subsequent good health of any of them has shown any impairment.

It has been stated that there is no petroleum ether whose boiling-point is 60°-65°. That is a dispute between the chemists. It certainly is true both that unsatisfactory results often are due to impure solutions, and that it has not always been an easy matter to obtain the ether which Schleich recommends. The writer has been much annoyed by this peculiar state of affairs. There seemed to be no such article on the market when the new method

was first advocated in New York. Reputable wholesale houses did not know it, nor could they obtain any. Merck had only a very small quantity on hand. Until some more could be either imported or manufactured, anesthetists had to be contented with an inferior article, which one firm hurriedly got up to answer the demand. With this fair results were had; but none to compare with those which were obtained previously, and have been again when the genuine petroleum ether,  $60^{\circ}$ - $65^{\circ}$ , was used. Maduro, who first reported the method in America, and to whom the writer owes more than to another what he was taught about Schleich's own ways, has spoken of this same difficulty. To be sure, these are denied the right to be called true solutions. Whatever may be the final determination of that question, it practically does not matter. Even if there are various points of volatilization, the quantities successively used are each so small, and the inhaler is so well-nigh emptied before each addition is made, that the agent is inhaled essentially as a solution (cf. Dr. Westbrook's paper on "Anesthetic Mixtures," BROOKLYN MEDICAL JOURNAL, XII., No. II, p. 682: ". . . mixtures should be administered in small quantities, frequently repeated, allowing, as far as possible, one dose to evaporate before adding another"). This statement of the actual method of administration covers one of the very important factors in a successful use of the Schleich Solutions. Whether an old solution deteriorates or not, the writer does not know. Westbrook says it does not, if kept in glass-stoppered bottles. Schleich seems to let his readers infer that the Solutions do not change after standing, for no caution is given against using any which has been prepared for some time. The writer does know that a certain sample of sulphuric ether became acid after standing in a cork-stoppered can, while a sample of the Solutions, which was likewise in a cork-stoppered bottle, and had stood for the same length of time, remained neutral. So that it would appear as if age were no objection. If any one is curious about the cost of the Solutions, it will be interesting to figure it out on the basis that a drachm of the No. 3 will maintain anesthesia for pretty nearly three minutes, and that petroleum ether will cost him five, sulphuric ether eight, and chloroform about ten cents an ounce. This means that between fifty and sixty per cent. is saved by using the Solutions. This is no small item in a large yearly expenditure for anesthetics in a charity institution.

The method of administration which has given the writer the

most satisfying results is to exhibit a small quantity of the solution, ten or fifteen drops to every half-dozen respirations, while admitting a very limited supply of air. Of course, each case is a law unto itself. There can be no routine method, just as there can be no routine anesthetic. To secure these two main factors different forms of inhalers were tried. Finally, Maduro's plan, which, by the way, Schleich himself has adopted and advocates in his book, was tried, and after repeated use continues to answer all requirements. A piece of rubber, 7 in.  $\times$  7 in.  $\times$   $\frac{1}{8}$  in., is used instead of paper; and the shape is that of a cone instead of a cylinder. The rubber is enfolded by a sterilized towel, which is sufficiently large at once to hold the rubber securely when it is bent upon its adjacent edges and at the same time to allow enough for tucking into the cone to act as the carrier of the anesthetic. If properly made there will be some room toward its apex, through which the air-supply can be controlled. Preferably the pointed end will be rounded off about an inch to make a snug fit under the chin. The trick in using this cone is to scatter ten or fifteen drops within the cone during an expiration. When the patient is to be moved from the etherizing-room into the operating-room the cone can be kept on the face by passing a narrow rubber strap about the neck and attaching it to the cone by means of the handy Peerless pin-hooks.

It remains now to mention some of the clinical aspects of the course of the anesthesia. In this again the personality of the patient plays an important part. Yet it would really seem as if patients had never manifested so little fear of or repugnance to the anesthetic vapor. The so-called second stage was present in a few instances; but never so marked as it often is with ether. Two of three cases upon whom the use of the solution was demonstrated at the Kings County Hospital were typical alcoholics; yet their narcosis was induced within six and ten minutes, respectively, with so little of the expected usual excitement that its absence was commented upon by the attendants. The writer has never hesitated to "push" the anesthetic during a stage of excitement, notwithstanding the reported presence of chloroform in the solution. Some attempt has been made to supplement the action of the anesthetic by actual hypnosis; but that practice has not yet justified itself. In a few cases the lid-reflex has persisted until after full anesthesia had been established, in a manner very similar to a case of chloroform anesthesia which the writer conducted

while at the College Hospital. In one case the orbicularis was benumbed before anesthesia was really established; yet in the main the lid-reflex has been found to be a reliable sign. The endeavor is made to determine the state of anesthesia, particularly from the pupillary reflex and from the character of the respiration. Schleich says (p. 65) that the narcosis can be regulated by the respiratory act alone; and again (p. 113), that if the anesthetist maintains the pupils in a state of medium dilatation (he probably means three to four mm.), by exhibiting the agent and, or, removing the mask, then the narcosis may be continued with the greatest equanimity of mind. This has been found to be good teaching. Hewitt says the same of chloroform administration (*"Anesthetics and Their Administration,"* p. 229): "If one symptom, and only one, is to be taken as a guide, . . . the respiration should undoubtedly be selected"; and again (p. 166): "If carefully watched and studied, the pupils will, in most cases, afford valuable information to the anesthetist." To be sure, other signs are always looked for: the temperature and the pulse are frequently noted, the general appearance of the face is watched; but, after all, most reliance is placed upon the character and depth of the respiratory movements, and the size and responsiveness of the pupil. Somebody has advised to keep one pupil in reserve. This is a capital suggestion. It is the rarest occasion when either the mouth-gag, tongue-forceps, or faucial-sponge are used. One of the very comfortable incidents in the administration is the absence of bronchorrhea; another is the comparative freedom from the unpleasant ether odor; a third is the infrequency of cyanosis; and, lastly, what should never be mentioned by an anesthetist, but still will sometimes happen, that the influence of the anesthetic is quickly reestablished if the patient is becoming conscious.

Some one will say that no case has been made out for the Schleich Solutions. The writer has not tried to do that, or even to explain his methods; but rather simply to state observed facts.

## APPENDICITIS COMPLICATING PREGNANCY.

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BY ONSLOW ALLEN GORDON, M.D.,  
Associate-Surgeon St. Mary's Hospital.

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Read before the Brooklyn Gynecological Society, January 6, 1899.

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Uncomplicated appendicitis would seem to be more appropriately presented before a surgical division, but appendicitis complicating pregnancy ought to be a profitable subject for discussion by this Society.

To Dr. Mundé, I believe, is due the credit of first calling attention to such a complication, although there can be no doubt that very many women had perished who might have been saved had the trouble been recognized early and the proper treatment been carried out.

There is nothing in the pregnant state that renders the woman less liable to this, one of the most fatal of acute abdominal affections. On the contrary, the child-bearing period is the age in which appendicitis is most common.

Appendicitis, which is always grave, is much more so in pregnancy, as statistics show that the mortality is much larger, and that where in uncomplicated cases but one life is in danger, here both mother and child may be lost.

A case in my own practice last summer, in which I successfully removed the appendix from a woman three-months' pregnant, induced me to look up the subject.

I know my report is not complete, but hope that the discussion which it may bring forth from members of this Society will prove of general interest.

Several of the cases which I report were reported by Dr. Abraham in 1897. No. 1, Dr. Mundé (*Med. Record*, Dec. 1, 1894). Mrs. P., eight-months' pregnant, was in labor—temperature 104, pulse 140—when first seen, September 21st, and the following history was given by the family physician: On the 15th suffered from pain and tenderness in lower part of abdomen—temperature 102 on fourth day. Under treatment and rest, pain subsided and temperature fell to 99 on September 20th. On September 21st she was seized with severe pain in the pelvic region, accompanied by a pronounced chill—temperature 101.5. September 22nd a dead

child was born. Twelve hours later decided dulness and acute pain on pressure could be made out in the right iliac region—temperature 102, pulse 120. Diagnosis of appendicitis, with perforation, was made, owing to the patient's condition it was decided to wait a few days for the inevitable operation. Temperature ranged from nearly normal on the 24th to 102 on the 28th, when operation was done.

An abscess was found, closed by a thick wall of agglutinated intestine. Convalescence uneventful. Dr. Mundé attributes the death of the child to the high temperature. It seems to me that the death of the child and premature labor were more likely due to the involvement of the uterine wall in the inflammatory process.

No. 2, Dr. Mundé. (*Medical Record*, October, 1895.) Mrs. H. History of recurrent attacks. On September 30, 1895, was delivered of a dead fetus at term. Two days after vomiting was incessant; pulse 63; temperature normal; vaginal examination negative; pain at McBurney's point. Under treatment patient's condition improved up to the 5th, when tympanites returned and temperature was 101; pulse 112; no dulness or rigidity on the right side. On the sixth day after attack operation was done. Appendix was found perforated, and the general peritoneal cavity shut off by adhesions. Death three days after.

This case shows the advisability of operation in cases of recurrent appendicitis in women in the child-bearing period, as operation in one of her earlier attacks might have saved her life.

No. 3. (*New York Medical Record*.) Operation by Dr. Mundé during fifth month of pregnancy. Patient's illness dated five days, the symptoms being severe pain in right iliac region; temperature 102 to 102.8; pulse 120. Day before operation temperature and pulse normal; on following day temperature reached 102.8, pulse 120; intense pain. Under chloroform anesthesia and tumor were revealed in right iliac region. Operation done, and a large amount of fetid pus evacuated; abscess cavity partly closed by adhesions; appendix not found. Patient died twelve hours after operation.

No. 4. Dr. Abrahams. (*Journal of Obstetrics*, February, 1897.) Mrs. X., About ninth week of pregnancy patient began to feel pain in right iliac region. A history of long constipation preceded this. The pain continued for three days, when she miscarried. This event afforded relief for one day, when pain returned and increased in severity. She was seen eight days after abortion and eleven after attack, when she was admitted to hos-

pital, and operation done by Dr. Munde. A big abscess, filled with ill-smelling pus and a gangrenous appendix, was found. The patient died.

No. 5. Dr. Wiggin. (*Medical Record*, January 23, 1892.) Mrs. V. Three-months' pregnant, seen first, July 21st. Complained of nausea; 24th, temperature 99, pulse 100; 27th, complained of pain in right side of abdomen for the first time. No tumor, and pain not increased by pressure; temperature 100, pulse 106. Diagnosis, appendicitis.

On the 28th pain had changed to region of left ovary. No tumor or dullness made out; abdomen distended, and muscles rigid; temperature 103, pulse 126. Operation refused. Death on 31st. Autopsy confirmed pregnancy and revealed a gangrenous appendix.

No. 6. Dr. McArthur. (*American Journal of Obstetrics*, February, 1895.) Mrs. R. Four-and-a-half-months' pregnant. January 17th was seized with intense pain in the right iliac region, intermittent in character and accompanied by vomiting, chill, and fever. Symptoms continued for two days, when temperature reached 103.5. Abdominal walls tense; dullness on percussion in right iliac region. Operation was done, and abscess, with gangrenous appendix, was found. Abortion next day. Death from general peritonitis second day after operation.

No. 7. Dr. McArthur. (*American Journal of Obstetrics*, February, 1895.) Four to five-months' pregnant; seized with sudden severe colicky pain in right inguinal region, with vomiting, three weeks before operation. Upon examination tumor was discovered in the right side of abdomen, which was painful to the touch; temperature 99.2, pulse 112. Incision revealed an abscess filled with stinking pus. The appendix was found in an agglutinated mass of intestines. The right uterine wall formed the inner wall of abscess. Patient miscarried and died.

No. 8. Dr. Harrison. (*Medical Record*, January 5, 1895.) Mrs. S. Five-months' pregnant. Pain in the right iliac region. Abdomen tympanitic and very sensitive on the 14th. On the 15th a mass was felt in right fossa; temperature normal. On the 16th chill, pain, and vomiting; temperature 107. Labor began, and terminated on the 17th, after which condition improved. On the 21st condition again unfavorable; 22d, operation. Abscess found, in which the appendix was involved. Recovery.

No. 9. Dr. Crutcher. (*N. Y. Medical Record*, Sept. 26, '96.) Young unmarried woman was seized with abdominal pain and

vomiting. July 16th, two days after, a two-months' fetus was expelled; pulse 160, temperature 102.5. After long delay, operation was done. Large abscess and gangrenous appendix. Death.

No. 10. Dr. Hirst. (*Philadelphia Medical News*, Dec. 15, '94.) Woman four-and-a-half-months' pregnant was seized with severe pain in the abdomen, with distention and tenderness; temperature 101; rapid pulse. As there was no improvement, operation was done the next day. Suppurative peritonitis was found, due to a diseased appendix.

Recovered, and was delivered at full term.

Dr. Abrahams reports two cases operated by Dr. Gerster in early pregnancy. Both recovered and carried to full term.

No. 11. My own case. Twenty-six years old; three-months' pregnant. Attack began in July, forty-eight hours before operation. Severe pain in right iliac fossa; rigid rectus muscle; vomiting; temperature 100; pulse 96. The appendix was adherent and inflamed. It was freed and the mesentery tied off, divided between ligatures, the stump inverted, and a fold of peritoneum sutured over it. Recovery uneventful. The patient has remained well, and was recently delivered of a healthy child. I received an oral report from a physician in this city which illustrates some of the difficulties of diagnosis. The patient was three-months' pregnant, and was seen by three very acute observers. There was a question between approaching miscarriage and appendicitis. While waiting, miscarriage took place, and was followed by peritonitis and death. Autopsy revealed a gangrenous appendix, with perforation.

An early operation in this case might have saved two lives. It will be seen that of the cases operated fifty per cent. recovered, but doubtless the percentage of recoveries would have been larger had the operation been done earlier, as the report shows that the earliest operation in the fatal list was four days after the attack and the latest twenty-one days after.

It will also be seen of the cases operated four carried to full term, the period of gestation at time of operation being three and four and a half months, and two reported as operated in early pregnancy. The diagnosis in the first three months should not be much more difficult than in cases not complicated by pregnancy, but in the later months the greatly enlarged uterus distends the abdomen and masks many of the objective symptoms. Vomiting, which is common to both conditions, is not associated with evidences of inflammation in pregnancy. Where there is a



question between approaching miscarriage and appendicitis the intermittent character of the pain, the hemorrhage, and partial dilatation of the cervix in abortion, ought to serve as a guide to diagnosis.

#### CONCLUSIONS.

1. I believe it is the duty of the medical attendant of a woman who is subject to pregnancy, and who gives the history of recurrent appendicitis, to advise the removal of the appendix, in order that she may escape the complication of appendicitis and pregnancy.

2. An operation should be urged in all cases when the diagnosis is not in doubt, and, more especially, in the early weeks of gestation, as the patient might recover from one attack, and the trouble recur at a later stage, which would add very much to the danger of both mother and child.

3. Pregnancy does not contra-indicate operation.

4. Success depends largely upon an early diagnosis and operation.

#### DISCUSSION.

Dr. Jewett: There is no reason to believe that pregnancy is an etiological factor in appendicitis. Bouillier recently collected twenty-two cases of appendicitis complicating pregnancy. His study of the subject resulted in the conclusion that pregnancy has no influence in the causation of the disease. Dr. Marx, in a recent paper, alludes to the engorgement of the abdominal circulation, which he affirms exists in pregnancy, as a probable cause of appendicitis. The assumption is to my mind unreasonable. I cannot sympathize with those who seem to look upon gestation as a pathological process. The pathological phases and tendencies of pregnancy have been much exaggerated. Marx also suggests that the appendix sometimes hangs down over the pelvic brim and is exposed to injury during labor. This is, perhaps, possible, but it must be exceedingly rare.

The prognosis in the pregnant woman is worse than in the non-gravid. The maternal death-rate is at least one-third and the fetal one-half. Abortion results in not less than a third. The fetus is liable to be killed by the high maternal temperature or by the toxic products of the septic process. Abortion follows as a consequence of the fetal death.

I can hardly agree with the author of the paper that the death

of the fetus, in a case like that cited from Mundé, is caused by inflammation of the uterus. It is more probably the direct effect of fever or sepsis.

In pregnancy, more than in other conditions, the danger is increased by delay. It is especially grave at labor, since an abscess, if it happens to be adherent to the uterus, may be ruptured by the uterine contractions. The prognosis is worse in advanced than in early pregnancy, too, owing to the greater resorptive activity of the pelvic organs at or near term.

The complication is one which makes immediate operation more necessary than in ordinary cases of appendicitis.

In the usual run of cases there is a certain proportion of them which may be left to get well without operation, provided the patient improves obviously within twenty-four hours. All surgeons agree upon this point. It is not safe to follow this rule when the disease occurs in a pregnant woman, for, even if the patient recovers from one attack, there is always danger of another coming on later, and as pregnancy advances the danger becomes greater. Immediate operation is indicated, and the earlier it is done, the better. I believe, furthermore, that a woman who has had appendicitis, and who is liable to become pregnant, should, as Bouillier says, have her appendix removed.

A case of appendicitis complicating the puerperal state recently came under my observation. The attack occurred about a week after labor. Operation was advised, but the friends and the attending physician did not favor it. After some days, by great good fortune, the abscess ruptured into the bowel.

The diagnosis offers no special difficulties in the early stages of gestation. Later the enlarged uterus interferes with palpation and the tube and ovary are lifted up so high that it is difficult to differentiate appendicitis from disease of the appendages.

Dr. McNaughton: When this complication of pregnancy exists, I would suggest the possible reflex effect upon the uterus. In appendicitis, when accompanied by a certain amount of peritonitis, there is always some interference with the function of the bladder. In the male there is often pain, which extends down the urethra and penis. Appendicitis in the pregnant may cause contraction of the uterus, especially if there be very high temperature.

Dr. W. B. Chase: I do not think that pregnancy itself has anything to do directly with the development of appendicitis, but I do believe that conditions may arise under such circumstances in which an appendix previously diseased might give trouble.

In women subject to recurrent attacks of appendicitis, the expansion and lifting of the uterus in pregnancy might bring on an attack, particularly if adhesions were present. The conclusions of the author are justified, and I entirely agree with him that when the diagnosis can be made no time should be lost before giving the patient the benefit of operation. The mortality is relatively high and the risk is greatly increased by delay.

Dr. Alex. J. C. Skene: I have nothing to add to the subject as set forth in the paper and discussion. I entirely agree with the author in all particulars (with, perhaps, one exception, to which I may refer later) not only as to the literature of the subject as it has been developed in this country, but also in reference to the suggestions made regarding treatment. I think they are timely; I think they are judicious, and they have the endorsement of Dr. Jewett, who has given more attention to the subject than I have. I would like to ask Dr. Jewett a question in regard to the French authority he mentioned: How are the histories of his cases dated as compared with those reported by Dr. Gordon and Dr. Mundé. I have an idea that attention was given to this subject in continental Europe before the profession of this country became interested in it. In case, however, Dr. Mundé was the first to operate for appendicitis during pregnancy, I would like to have the fact appear in this discussion; or, if our neighbors in France, who have always been on remarkably good terms with the profession in America, were the first to do the operation, it would be interesting to know it.

I would like to make a few remarks upon the first sentence of the author's paper, in which, if I remember correctly, he says that uncomplicated cases of appendicitis are considered as belonging to the province of the general surgeon, rather than to that of the gynecologist, and explains that he brings his paper to us because it treats of the disease when complicated by pregnancy. Now, I am very glad to have an opportunity to discuss the position of the general surgeon and of the gynecologist in this matter. In the first place, I am unable to understand why abdominal surgery in women should not be considered more decidedly related to gynecology than to general surgery. I have very strong convictions upon this subject, and, I repeat, I cannot understand why it is that any abdominal surgery on women should be considered as belonging to the province of the general surgeon. I would be perfectly willing to let him have these cases, provided he would admit the right of the gynecologist to exist at all as a surgeon.

I used to send to the general surgeon my cases of appendicitis, and all other cases not involving the sexual organs, which required operation; but I soon found that while he accepted these cases as his rightful property, he never admitted by his actions that I had a right to do gynecological operations. In justice to my associates, the professors in the college of this borough, and a few surgeons elsewhere, I must say that there are exceptions not to be included in my present remarks. All cases of abdominal surgery belong to the gynecologist, I believe, and the very fact of the success in operating upon these cases of appendicitis by Dr. Gordon and other gynecologists shows that we are more than competent to do these operations. This has been proved beyond question. Moreover, if you will look back during the last fifty years, you will see that everything of any great importance which has been added to abdominal surgery has been added by the gynecologist, excepting the discovery of the germ theory by Lister and others. I do not see what the general surgeon has to boast about—nothing at all compared with the gynecologist. I might venture to say, without fear of any one contradicting me, that all which the general surgeon knows about abdominal surgery has been taught him by the gynecologist. Now, without prolonging the argument, I think that we should look to our rights in this respect. Dr. Gordon is right to bring his paper to us, for it belongs to us, and we would have had no reason to forgive him had he read it before a surgical society.

Dr. Baldwin: One of the points which occurs to me in regard to the etiology of appendicitis is that it has always been held that the disease is more frequently met with in the male than in the female, because the blood-supply in that region is less in the former. If this be so, one would think that the increased blood-supply which accompanies pregnancy would tend to put the appendix in a better condition rather than interfere with its nutrition.

Dr. Jewett: In reply to Dr. Skene's question, I do not remember the dates covered by the series of cases reported by Bouillier, nor do I remember who was the first to operate upon this class of cases in this country, or abroad. The French and Germans, however, have not kept pace with the progress made in this country in the treatment of appendicitis.

Dr. Baldwin's remark that pregnancy would act as a protection against rather than a cause of appendicitis, leads me to suggest that Dr. Gordon would do us service by collecting statistics

showing the comparative frequency of appendicitis in pregnant and in non-pregnant women during the child-bearing period.

Dr. Gordon, in closing: I have nothing to say, except to express my thanks to the members who have discussed the paper.

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### THE LONG ISLAND COLLEGE HOSPITAL.

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Professor A. J. C. Skene, M.D., has been appointed Emeritus Professor of Gynecology.

The chairs of obstetrics and gynecology have been combined under Professor Charles Jewett, M.D., as Professor of Obstetrics and Gynecology.

The department of bacteriology has been added to that of pathology under Professor J. M. Van Cott, M.D., as Professor of Pathology and Bacteriology.

The department of histology has been assigned to Professor W. W. Browning, Professor of Anatomy.

The following appointments have been made:

Henry H. Morton, M.D., Clinical Professor of Genito-Urinary Diseases.

Robert L. Dickinson, M.D., Assistant Professor of Obstetrics.

Gordon R. Hall, M.D., Assistant Professor of the Practice of Medicine.

George McNaughton, M.D., and Ernest Palmer, M.D., Lecturers on Gynecology.

Wilbur H. Seymour, M.D., Lecturer on Histology and Instructor in Pathology.

C. E. Gunther, M.D., Instructor in Clinical Medicine.

Clarence R. Hyde, M.D., H. P. de Forest, M.D., and Jarvis S. Wight, Jr., M.D., Instructors in Obstetric Manikin.

Homer E. Fraser, M.D., Assistant to the Chair of Genito-Urinary Diseases.

Briton H. Richardson, M.D., Assistant to the Chair of Anatomy.

Walter Truslow, M.D., William S. Hubbard, M.D., and Joseph O. Kilgariff, M.D., Assistants to the Chair of Orthopedics.

John C. Cardwell, M.D., Demonstrator of Physiology.

Sewall Matheson, M.D., and Daniel C. Mangan, M.D., Assistants to the Chair of Chemistry and Toxicology.

A summer course has been established, to begin May 18 and to close about August 1. This will consist of recitations and hospital and Dispensary clinics.

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## EDITORIAL.

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### GLYCERINATED VACCINE-LYMPH.

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Dr. Richard Slee, formerly of Brooklyn, recently read a most interesting paper on "Modern Methods in Production of Vaccine Virus" before the "Associated Health Authorities of Pennsylvania." In this paper he refers to the prophecy of Dr. Benjamin Lee, Secretary of the Pennsylvania State Board of Health, that we are on the eve of an outbreak of smallpox in this country. This prophecy is apparently beginning to be realized, for the disease has been very prevalent in Ohio and Pennsylvania, and elsewhere, and there is no reason to expect it to be limited to any locality; the conditions for its spread throughout the country are too favorable for this.

Dr. Slee refers to the impossibility of obtaining vaccine virus from the calf unmixed with micro-organisms, for the reason that the great number of hair-follicles and the habits of the animal necessarily cause contamination, but vaccine stored in chemically pure glycerin for three or four weeks is rendered practically sterile so far as extraneous organisms go. In experiments on this subject Dr. Weaver found that in glycerin, streptococcus aureus was dead in from five to twenty days; staphylococcus pyogenes, in five

days; bacillus mallei, in two days; and bacillus subtilis, in four weeks.

In the course of his paper Dr. Slee refers to the introduction into the United States of vaccine-lymph in March, 1869, by Dr. J. H. Raymond of Brooklyn, and states that he believes this to be the first fluid lymph introduced into this country.

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### FIRST AID ON RAILWAYS.

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We have in the past frequently had occasion to refer to St. Luke's Hospital at South Bethlehem, Pa., and to its most efficient Medical Superintendent, Dr. W. L. Estes. No surgeon has done more to advance the interests of railway surgery than he, and not the least of his contributions is the system of "accident chests" which, as Chief Surgeon to the Lehigh Valley Railway, he has introduced, to be used for injured persons. At the time of their introduction, while the road had an abundance of local surgeons, there was no provision for supplying simple aseptic dressings and means for controlling hemorrhage. Soiled handkerchiefs and "waste" from the locomotive were the dressings which the employees were accustomed to use when an injury occurred. The "accident chests" were designed to furnish simple appliances and aseptic dressings, with some antiseptic substances, to be used by the surgeon; they are put up in an easily portable and compact form, and enclosed in a tin case. Inside the lid is a list of the contents of each case, with simple directions for meeting some emergencies. These chests are placed, not only at the stations and on wreck-trains, but every passenger-train conductor is required to carry one, and they are also to be found in the cabooses of freight-trains. As a result of their use, Dr. Estes states that his statistics show a saving of life of a little more than 60 per cent., while the time of disability is reduced one-half. For the benefit of our readers we publish the list of articles in the chests, and the rules recommended for treatment of the injured after an accident.

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### THE MEDICAL PROFESSION AND THE UNITED STATES GOVERNMENT.

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Under this title the Editor of *The American Gynecological and Obstetrical Journal* makes a strong plea for the appointment

of a medical representative in the cabinet of the President, and calls upon the profession at large to take an active interest in bringing about its accomplishment.

The subject is not a new one; indeed, on many occasions the American Public Health Association has agitated it, but, unfortunately, sanitarians and others interested have never been able to agree on just what such representation should consist in. There are those who believe that the end could best be secured by making the Surgeon-General of the Army the Minister, while others regard the corresponding officer in the Marine Hospital Service as the proper person to occupy this exalted position, and the number is not a small one who believe that this service of the Government should be under a civilian, selected for his eminence in sanitary science and independent of every other department. The problem is not an easy one to solve, and the great difficulty in the past has been that of uniting all who are interested. If this could be done, the influence of the medical profession is undoubtedly great enough to bring about the desired result.

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## PROGRESS IN MEDICINE.

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### SURGERY.

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BY GEORGE RYERSON FOWLER, M.D.,  
ASSISTED BY RUSSELL S. FOWLER, M.D.

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#### RADICAL CURE OF INGUINAL HERNIA.

Dr. Alexander Brenner, Chief-Surgeon, Linz a/D. (*Centralblatt für Chir.*, xli, pp. 1017-1023, 1898) describes a modification of Bassini's operation which, by reason of its advantages and the reliability of its results, has become more practical than any other operation for the radical cure of inguinal hernia.

It is rather strange that, extensively used as this operation is, no one has as yet called attention to the use to which the cremaster muscle, that extension of the internal oblique fibers which descends along Poupart's ligament, might be put. In the Bassini operation this bundle of fibers after being split, is not used, but is either crowded to one side together with the hernial sac and seminal cord or is even cut away. The edge of the oblique frequently lies at quite a distance from Poupart's ligament, consequently heavy



suturing material and considerable tension must be used to approximate the two; this, at the risk of necrosis of the tissues from pressure and the subsequent separation of the suture line. The chief aim in Brenner's modification of Bassini's procedure is the employment of the cremasteric fibers in conjunction with the muscular plane of the internal oblique in the formation of a new posterior wall to the inguinal canal, so that muscular tissue is sutured to muscular tissue and not, as in Bassini's method, the muscular mass of the combined internal oblique and transversalis to the non-vascular freshened shelving portion of Poupart's ligament.

The operation is as follows: Skin incision, as in Bassini's, fifteen to thirty centimeters in length, exposing the aponeurosis of the external oblique from above the level of the internal ring to beyond the external ring, bringing in view the point where the hernial sac or seminal cord passes into the scrotum. Beyond the intercolumnar fibers the aponeurosis is frequently found attenuated and of dark appearance as distinguished from the underlying muscular layer. The external oblique aponeurosis is split in the direction of the canal to beyond the edge of the internal oblique. The underlying layer consisting of connective tissue and the cremasteric fibers is split in its turn. Frequently in the region of the inguinal ring a thin layer is closely attached to the external oblique aponeurosis. This layer is bluntly dissected off the sac and the remainder of the sac isolated with the cord; these are subsequently isolated from each other. The sac is opened and the contents reduced. The sac is ligated as far back as possible, is cut away by the thermo-cautery or scissors one centimeter distad to the ligature, and the stump is allowed to fall behind the internal ring. (B. considers separation by means of the thermo-cautery advantageous because of its obliteration of the serous membrane of the hernial stump.)

At this point Bassini, neglecting the cremasteric fibers, sutures the internal oblique and the transversalis muscle to the shelving portion of Poupart's ligament.

Brenner proceeds as follows: The seminal cord is lifted from the canal by a blunt hook. The upper margin of the cut aponeurosis of the external oblique is caught with hook-forceps and rendered visible for its entire extent, and the connection between it and the underlying internal oblique muscle loosened with a few flat-knife strokes from the point of emergence of the seminal cord to the insertion of the aponeurosis into rectus sheath. (Figure

1 of the original.) The lower cut edge of the aponeurosis of the external oblique is now caught with forceps and raised and the cremasteric fibers gently separated from its under surface. These fibers are continuous above with the internal oblique muscle, growing more numerous as Poupart's ligament is approached. Normally they descend into the scrotum in front of the seminal cord. If now both cut edges of the external oblique aponeurosis are raised it will be seen that the cremasteric layer and the internal oblique form one muscular plane with a cleft between, at the bottom of which lie transversalis fascia and peritoneum. It is this cleft which the hernial sac and the seminal cord have occupied. The thickness of the cremaster, as well as that of the edge of the internal oblique muscle, varies according to the duration and size of the hernia, but the larger and older the hernia the thicker are these structures, particularly the cremaster;\* it is only in very small herniæ or in the absence of the sac that the cremaster is thin and replaced by connective tissue, and even in these cases it is always present and permits of suturing. Care must be taken in these cases not to loosen the fibers too extensively.

The two muscular pillars, cremaster on the outer side and internal oblique upon the inner, forming the cleft are now sutured muscular edge to muscular edge, the cord being held out of the way and allowed to escape from the upper angle of the cleft. (When the cremasteric bundle is spread out it is generally found to be broader than the cleft mentioned, the superfluous portion is, therefore, turned back upon itself.) These pillars when sutured form a sufficiently firm posterior wall to the new seminal canal without any tension upon the suture line. Brenner first places a suture at the center of the cleft, subsequently suturing above until the cord is reached, frequently placing an additional suture above the cord; then from the center suture down to the suture above the cord; then from the center sutures down to the of suturing. Here Brenner passes a suture with special care through the deepest portion of the internal oblique, which is at this point least developed, through the cremasteric fibers, and through the connective tissue so that the line is rendered impassable to the tip of the little finger. (Particular care is necessary here. One of B.'s earlier cases, one who began hard work immediately on leaving the hospital, died from pneumonia one

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\* This fact renders the method advantageous in larger herniæ as it is these that require the greatest amount of tension in Bassini's operation.

year after operation. At the necropsy a direct hernia was discovered at the lowest point of the suture line.)

On completion of the suture line the cord is seen emerging from a broad muscular plane. In cases where the cremaster is very weak this plane is found to be sufficiently strong to resist the pressure during vomiting even in cases where the peritoneum predisposed to a direct hernia. The cord is now replaced and the external oblique aponeurosis sutured over it. Here also every available portion of tissue is saved. The lax portions of aponeurosis that are most extensive in large herniæ are turned in and the more solid portions of the aponeurosis sutured together. Fine silk is used. This suture line extends from the emergence of the cord below into the scrotum to a short distance above the incision originally made.

The closure of the skin wound completes the operation, which occupies from thirty to forty-five minutes. A drain is introduced beneath the skin. This is removed after twenty-four hours, having served its purpose in leading the serous oozing into the outer dressing. B. expresses his satisfaction with this drainage and sees no reason for abandoning it. In order to avoid as much as possible the edema and congestion in the pampiniform plexus a suspensory bandage is employed which is worn for a considerable length of time after the case is dismissed. The author here remarks that he has frequently seen infiltrations of the cord as large as the finger which took from three to six months to disappear but which interfered in no way with the function of the testicle. These infiltrations he also observed at other clinics following the Bassini method.

The author employed this method in 348 herniæ occurring in 251 persons (233 men and 18 women), the herniæ varying in size from a thimble to a man's head.

Time of healing varied from ten to thirty days. In the majority of cases the patients were dismissed on the fourteenth day without a truss.

Two cases died; one a man of 64 suffering from an incarcerated hernia, who was operated upon late in the evening, died from wound infection which can be explained by defective preparation (an honest confession). The second case, a female, died on the second day of pneumonia. This case was one necessitating a resection of the bowel. The autopsy revealed a perfect peritoneal result.

Final results: 116 persons (107 men, 9 women) must be ex-

cluded as either their conditions could not be ascertained or less than a year had elapsed since the operation.

169 herniæ (126 men with 155 herniæ and 9 women with 14 herniæ) answered communications or were examined. There were no recurrences among the women. There were ten recurrences among the men, some being at the cicatrix and others descended into the scrotum. Percentage of recurrences,  $5\frac{9}{10}$ .

The author thinks these results justify his modification of the Bassini procedure and as the procedure is so simple and reliable also justified him in operating upon both sides in juvenile cases in which a hernia seemed possible on account of the width of the inguinal canal. None of these cases suffered harmful results the wounds always healing *per primam* and no hernia was ever noted even in those cases in which the cicatrix gave way upon the side of the hernia proper. The author thinks that by this procedure he cured any disposition to hernia that might have existed.

In the 157 who were operated upon both sides 81 times two hernial sacs were found, in 24 cases these were no larger than a thimble.

In 74 cases, oblique hernia on both sides.

In 4 cases, direct hernia on both sides.

In 2 cases, beginning hernia on both sides.

In 1 case, oblique on one side, direct on other.

In 66 cases a hernial sac was found on one side only. In these cases there was found on the other side a lipoma of the cord in three cases, an inguinal testicle in one case, a cord of connective tissue representing an obliterated hernial sac in one case, a funicular hydrocele in one case, a beginning direct hernia in seven cases. In six instances there was no hernial sac found on either side; a wide inguinal ring with bulging existed. Four instances of simple hernia were observed, 3 right-sided and 1 left-sided.

In thirteen women with double-sided operations a hernial sac was found nine times upon both sides (in one a direct hernia).

## OBSTETRICS.

BY CHARLES JEWETT, M.D., SC.D.

### PODALIC VERSION VS. HIGH FORCEPS.

H. Schultze (*Zeitschr. f. Geb. u. Gyn.*, B. XXXV., H. B) presents the claims of forceps as an alternative of version in difficult delivery at the superior strait. With most authorities version is given the preference over high-forceps operations. Simpson is a warm advocate of version. Fehling, in a total of 8000 confinements, has never found an indication for the high-forceps operation. Gusserow, Litzmann, and Schroeder reject high forceps. Version, however, the author submits, with uterus firmly contracted and in narrow pelvis, is a difficult procedure, to say nothing of the dangers of uterine rupture. In 12 versions in contracted pelves 5 of the children were lost. Some of the mothers, too, succumbed, and others nearly perished, by hemorrhage from cervical lacerations.

Fehling concedes that the maternal mortality in version is from 3 to 19 per cent., and the fetal from 36 to 63 per cent. Hecker estimates the mortality of the mothers at 6 per cent., and that of the fetus at 43 per cent. Hugenberg states the death-rate at 10 and 70 per cent. for mothers and children, respectively.

The author pleads for the more frequent use of forceps in preference to version, and cites several successful deliveries in slight contraction at the brim, in defence of his position. In a total of 11 cases 10 of the children were saved by high forceps in moderate contraction of the pelvis.

To the objections commonly urged against forceps, that it disturbs the normal mechanism, that it is more dangerous to the child than version, and that it exposes the mother to more serious injuries, especially if she be a primipara, the author replies, in effect, that these strictures do not hold against the Tarnier forceps when skilfully used.

The author concludes that: In the presence of indications for immediate delivery, before the head has engaged, version should be chosen, if the membranes are still intact or have only recently ruptured.

If the membranes have long since ruptured, forceps is to be

preferred. Resort may be had to Barnes' bags or to cervical incisions if dilatation is incomplete.

Forceps is not contraindicated by moderate contraction at the brim.

#### CÆSARIAN SECTION AND SYMPHYSIOTOMY.

Charles (*L' Obstétrique*, 3 Année, No. 5) contributes an interesting article on this subject. He compares the results obtained by Leopold in 100 Cæsarian sections with Pinard's results in 90 symphysiotomies and his own in both operations. With Leopold, a conjugate diameter of 5.5 to 6.5 cm. is regarded as an absolute indication for Cæsarian section. Between 6.5 and 7.5 cm., Cæsarian section shares the field with its alternatives. Leopold's statistics are as follows: In 71 conservative Cæsarian sections, 9.8 per cent. of the mothers, 7.4 per cent. of the children were lost. In 29 Porro operations the maternal death-rate was 10.3 per cent. and the fetal 25.7 per cent. Pinard, in 90 symphysiotomies lost 11 per cent. of the mothers and 13 per cent. of the children. Charles, in 10 Cæsarian sections saved all the mothers and all the children. In 14 symphysiotomies his maternal mortality was 21.5 per cent. and the fetal 7. The author concludes that symphysiotomy is a somewhat more dangerous procedure than Cæsarian section.

#### FETAL ORIGIN OF ECLAMPSIA.

Baron and Castaigne (*Ibid.*) have conducted a series of experiments with a view to proving the relation of the fetus to puerperal eclampsia. It was found that certain substances injected into the fetus or the amnion are promptly absorbed by the maternal organism, if the fetus is living. Absorption takes place much more rapidly from the fetus than from the amnion. These results would seem to show that fetal toxins may be important factors in eclamptic poisoning. After the death of the fetus substances injected into either the fetus or the amnion do not appear in the maternal circulation. This fact is entirely consistent with what is observed clinically, if we assume that faulty metabolism in the fetus is one of the causative factors in eclampsia.

## GYNECOLOGY.

BY WALTER B. CHASE, M.D.

### ARREST OF A BLEEDING FIBROID TUMOR BY LIGATURE OF THE UTERINE ARTERIES.

Herman (*Lancet*) says the anastomosis between the branches of the uterine and ovarian arteries would have suggested that the collateral blood-supply after ligature of the uterine arteries would be great, but the effect in some cases, at least, produced by this ligature leaves no room for doubt that this collateral circulation is not established at all readily. Possibly some of the discordance in the results obtained in the treatment of fibroids by Martin's operation is to be explained by the ligature having included only one branch and not the main trunk of the uterine artery, as division occurs at some distance from the uterus. The two great arguments in favor of the operation are the absence of mutilation and the comparatively slight risk to life; these in themselves will be sufficient to render it a suitable operation in cases where patients or friends object to methods more likely to be followed by success.

A patient, aged thirty-five years, was admitted on October 28, 1897. She was married, but had never been pregnant. Her complaint was that for the last three years she had been "flooding" at intervals of about three weeks, and for the last eight weeks she had been losing blood continuously. She had been treated for the hemorrhage by ergot, but without benefit. The patient was seen to be markedly anemic. A movable tumor, composed of hard, rounded nodules, was felt rising out of the pelvis and reaching to within three-fingers' breadth of the umbilicus. By bimanual examination this tumor was found to be continuous with the cervix and with other masses felt behind and at the sides of the cervix. The uterus was as freely movable as was consistent with its size, and the cervix was low down. On November 3d, the cervix having been previously dilated, the interior of the uterus was examined, but it was found that no tumor projected into the uterine cavity. The patient was advised that the best way of stopping the hemorrhage was by an abdominal operation—either removal of the ovaries, or of the tumor, or of both, according to

what the operator might judge to be the safest after the abdomen had been opened. However, she absolutely refused to undergo any operation which would deprive her of the possibility of pregnancy. It was, therefore, decided to tie the uterine arteries. On the 10th a transverse incision was made through the vagina in front of the cervix, and with the fingers the bladder and ureters were separated from the uterus in front, and the broad ligaments were opened up at its sides. When this had been done the uterine arteries could be felt pulsating. A ligature was passed over each from above downwards with an aneurism-needle and was tied. Oozing was checked by packing the wound with iodoform-gauze. On December 10th, one month later, the note was recorded that no hemorrhage had occurred since the operation, and that the uterus could be barely felt above the pubes. The patient menstruated after the operation about once in five or six weeks, and not more copiously than was customary when she was in good health. She was seen last on July 5, 1898, and then the uterus was not larger than at the end of the third month of pregnancy.

#### A SUGGESTION TO BE USED IN ABDOMINAL INCISION.

Schenck (*Int. Jour. Surg.*, Vol. II., No. 6) says in performing laparotomy he has noticed that, after the abdominal incision has been made, it frequently occurs that from the constant introduction and manipulation of the fingers through the abdominal incision, the peritoneum becomes separated, to a greater or less extent, from the muscular tissue. Appreciating the fact that several complications can arise from this condition of affairs, the idea suggested itself to him to introduce a stout ligature through the center on either side of the incision, about half an inch from the margin of the wound, this ligature being first tied snugly, and a loop of from four to six inches allowed to remain beyond the first knot. We accomplish by this procedure two results—firstly, we prevent the separation of the peritoneum from the tissues overlying; and, secondly, we have two retractors which take up no room and cause less traumatism than the ordinary metal retractors. When the operation is completed, the ligatures are clipped and removed, and the wound brought together according to the method adopted by the surgeon.



## EMPHYSEMATOUS VAGINITIS.

Vridarskaia (*Lancet*) reports an instance of this vesicular affection of the vagina, which is in most cases associated with pregnancy. The vesicles are full of gas, and are mostly situated in the posterior vaginal wall. They vary in size from a pin's head to a pea, and lie in the submucous connective tissue. Eisenlohr traces this disease to the agency of microbes. He obtained pure gelatin and agar-agar cultures, slightly alkaline. As long as it remained alkaline a culture gave out a gas which seemed to be trimethylamine. Vridarskaia's patient was in the fifth month of pregnancy. She was feverish, and had rigors and show of blood. The vagina looked as though its veins were varicose; this appearance was due to numerous vesicles, chiefly in the upper and posterior part of the vaginal wall. Anteriorly and laterally the vesicles were scanty and very small. The fact that they contained gas was proved by pricking them when the vagina was filled with water, bubbles of gas at once escaping. The bag of waters was intact, but abortion set in. The vagina was washed out twice daily with a 1-in-2000 sublimate solution. At the end of a fortnight the vesicles had entirely disappeared. It remains uncertain whether the cure was due to the injections or to the cessation of gestation.

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## PROCEEDINGS OF SOCIETIES.

## BROOKLYN PATHOLOGICAL SOCIETY.

*The 400th regular meeting, December 8, 1898.*

The President, Dr. James E. Sheppard, in the Chair.

The program of the evening was under the charge of Section III.: Dr. Jacob Fuhs, Chairman, and Drs. Aldridge, Black, Buckley, Chapman, Emery, Finch, Hughes, Jewett, Lewis, McClelland, Morton, Pettit, Reynolds, Schondelmeier, Stuart, Simmons, Taylor, Waterman, and Winfield.

Twenty-four members were present.

## SCIENTIFIC BUSINESS.

I. Report of a Case of Cæsarian Section, with Hysterectomy. Dr. Charles Jewett.

II. Report of a Case of Congenital Membranous Diaphragm of the Rectum. Dr. W. L. Chapman.

III. (1) A Rare Form of Dislocation of the Carpus. (2) An Accident Occurring during Laparotomy. Dr. Peter Hughes.

IV. Speciment of Catarrhal Gastritis. Dr. Jacob Fuhs.

## A CASE OF CÆSARIAN SECTION WITH HYSTERECTOMY.

*Dr. Charles Jewett.*

The subject of this report, an Italian dwarf, 3 feet 11 inches in height, was admitted to the Long Island College Hospital in September last. She was in the ninth month of utero-gestation. Her pelvis, which was of the flat, rachitic type, presented the following measurements: External conjugate, 14.5 cm.; inter-cristal diameter, 24 cm.; interspinal, 25.5 cm.; the diagonal conjugate, 8.2 cm. The true conjugate was estimated at 6.4 cm. or little more.

Cæsarian section was performed October 3rd, a few days before the expected date of labor. The placenta was implanted anteriorly and the uterine incision was carried directly through it. The child, a male, weighing  $7\frac{1}{4}$  pounds, was extracted alive in forty-seven seconds from the time of the skin incision. The uterus was then amputated through the cervix, and the stump dropped. The upper end of the stump was sutured to prevent infection from the cervical canal, and the peritoneum closed over it. To prevent the unpleasant effects of a premature menopause the ovaries were left. It may be of interest to note the behavior of the uterus after removal. During the hysterectomy little or no retraction was possible, as it was held up firmly with the hysterectomy forceps. It came away as a flaccid sac nearly as large as before operation. After amputation and removal from the abdomen it retracted as completely as though it had remained *in situ*. Within a few minutes the shapeless, flabby sac was reduced to the usual hard, globular mass, such as we feel in the abdomen after ordinary labor.

Both patients left the hospital in good condition in little

over a month. The accompanying photograph shows the abdominal cicatrix just four weeks after operation.

The points of interest illustrated by this case are these: Operation before labor permits better preparation, and the patient is in better operable condition. It avoids the exhaustion which obtains in greater or less degree after labor of even a few hours.

Rapid incision and extraction directly through the placenta, when it is attached anteriorly, is, I believe, better than peeling it up and passing the hand through the membranes beyond the edge. It is better because it permits less hemorrhage. If the cervical ligature is used, hemorrhage is controlled, but going through the placenta brings the child out more promptly and asphyxia is not so deep.

Hysterectomy after Cæsarian section removes the chief source of possible sepsis, and it takes no more time than suturing the uterus. This plan, I believe, if generally adopted, will yield a larger percentage of successes than the conservative Cæsarian section.

#### DISCUSSION.

Dr. Polak: I had the pleasure of seeing Dr. Jewett perform that operation, and in listening to the paper just read I was impressed with one or two points. One is the comparative ease with which Cæsarian hysterectomies are done and the rapidity with which the operations are finished. The incision was made from close to the ensiform cartilage, down to the pubes. Through this the uterus was withdrawn.

Dr. Dudley in the last five years has been able to deliver four cases through an incision a little over five inches in length. The liability to produce hernia by this incision is very much lessened than by the old large incision of the older men.

The child in this case was delivered in forty-six seconds by my watch, which is a little faster than the doctor has given himself credit for; however, it was remarkably quick. The uterus, with its contents, was eventrated through the opening. Clamps were put on both broad ligaments, and the ovaries left behind. I have never seen a better or more clever operation outside of Kelly's book. It seemed to me to be much better than the Powell operation for Cæsarian section. In those cases of Cæsarian section that I have had the pleasure of seeing, it seemed difficult to decide

just what kind of a suture should be used. Some use a continuous or interrupted suture of silkworm-gut or chromotized catgut.

Of course there is some bleeding; hemorrhage cannot be prevented for awhile. I remember two cases that occurred during my service with Dr. Jewett. In one, in which the hemorrhage was quite severe, there was a lack of tone in the fibers of the uterus and no contractility. The mortality from the Cæsarian-section operation is the mortality of abdominal section. The dangers of the one are practically those of the other. Insupravaginal amputation of the uterus it is not difficult to locate and isolate the vessels. The same operation can be done for mucous fibroids. The principal point about this operation is the rapidity with which it can be done. The sutures used are all of standard material.

#### CONGENITAL MEMBRANOUS DIAPHRAGM OF RECTUM.

*Dr. W. L. Chapman.*

The case which I am about to report is an interesting one, not only in itself, but in connection with the history of the previous children. It is the third child of Mrs. T. (aged twenty-seven years). The first child, a boy, born February 26, 1892, had spina bifida, and lived four days. The second child, a girl, born August 26, 1894, had congenital absence of rectum, and lived only seven days, the family refusing an operation. The third child, a girl, was born March 31, 1898. It was a well-developed child, at term, weighing  $7\frac{3}{4}$  pounds, and to all appearances perfectly normal.

The mother was very anxious about the child on account of the previous children, and to satisfy her that it was all right, I inserted a soft-rubber catheter into the rectum.

The catheter had passed only a short distance into the rectum when I found that it was doubling upon itself. It was tried several times, with the same result. I then tried to pass a more solid, English catheter, but it would only enter a little over an inch.

This convinced me that the rectum ended in a blind pouch, and, as it was late at night, I decided to do nothing further until morning.

The next day I was informed that the child's bowels had

moved, and on investigating the matter, found a yellow stain on the napkin about the size of a penny.

Thinking that I might have been mistaken the night before, I tried the catheters again, but with the same result. I then thoroughly oiled my little finger and passed it into the rectum, which terminated at about the upper margin of the internal sphincter.

Having at hand no speculum small enough, it seemed possible to obtain a view of the interior of the rectum by distending it with a pair of dressing forceps. I inserted a small pair, but on separating the blades, felt something give way. At the same time the child had a free movement of the bowels, slightly tinged with blood. After the movement, the finger was again introduced, and a lacerated membranous ring could be felt which completely encircled the bowel.

There was a slight oozing of blood, so the rectum was packed lightly with gauze, which was expelled, later in the day, by another movement.

No further interference was attempted, and the child is now over eight-months old, and has no trouble with the bowels, except when they have not moved for a day or two, and then the movements are accompanied by considerable pain and followed by a slight prolapse of the rectum.

This pain and prolapse, which occur when the passages are firm, indicate that there is still some stenosis, which I shall try to correct after the child is through teething.

The occurrence of these three deformities with the one mother seems more than a mere coincidence, but I can find no apparent cause. The parents are both very strong and well developed, and the grandparents on both sides are still living, and state that there has never been any trouble with any other children in the family. This excludes the question of heredity.

As before stated, it was a well-developed child, at term, weighing  $7\frac{3}{4}$  pounds, which would exclude the question of malnutrition.

The mother was questioned closely in regard to mental impressions, but none were found, except during the last pregnancy, when she worried on account of the previous children.

#### DISCUSSION.

Dr. Polak: The doctor is certainly to be praised for recognizing the membrane so soon after birth, and also for

having been so successful in getting through the membrane. About two years ago I reported three cases operated on for imperforate anus. One rectum ended in a pouch, a cord connected it with the bladder, and the child passed both urine and feces through the urethra. Another case I saw when the child was eight or ten days old. The child was then almost moribund. There was a thin membrane one or one and a half inches up in the rectum. When this was perforated an unusually large quantity of meconium passed. The patient died a few hours after the membrane was perforated. The other case was where the rectum was identical with this case the doctor has reported. I attempted to cut through the perineum and separate the expanded rectal pouch from its attachments. The case died afterwards. These three and one other are the total number I have operated upon.

Dr. Haynes: Some years ago my father told me of a case similar to that of Dr. Chapman's, in which a membrane or band completely shut off the rectum. In most of the books bearing on the subject, Van Buren, Keyes, Stimson, and others, the operation recommended as the best for imperforate anus or rectum is a left inguinal colotomy. Other writers think that in this operation there is danger of shock to the peritoneum and also danger of infection. I had a case in which I performed a left inguinal colotomy and the child got better. In a few days I operated from above and opened up the natural passage; the child began to have natural movements soon after. In the *American Journal of Medical Sciences* for January, 1882, Edmund Owen, an English surgeon of the London Hospital, regards this as the ideal operation for these cases.

Dr. Polak: There is one other thing to be remembered in operating on these cases, and that is the close proximity of the ischiatic tuberosities, and the very small amount of space that one must work in between them and the perineum. This difficulty can be somewhat overcome by continuing the incision well up to the end of the coccyx. I think the dangers from sepsis are increased by the difficulties experienced in trying to work in so small a space.

#### A RARE FORM OF DISLOCATION OF THE CARPUS.

*Dr. Peter Hughes.*

About two months ago a physician sent a little boy to my office for examination. He was brought by his mother, who told me

that he could not flex or extend his fingers. There was quite a deformity of the wrist-joint, which had been in this condition for a long time. The fingers were flexed in this shape and extension was completely lost.

This little man, some four or five weeks prior to my seeing him, was treated for a Colles' fracture by a physician. It was put up in plaster of Paris for some time, and when the plaster was taken off this was the result which was observed.

I examined the boy carefully, and found the ends of both the radius and ulna projecting, and pressing on the flexor muscles of the hand. There was quite an elevation on the back of the wrist, and I made a diagnosis of upward dislocation of the carpus over the radius and ulna.

Dr. Feely saw the case with me in consultation and agreed with me. Then we thought of what would be the best thing to do for the boy. We suggested operation, with the end in view of reducing the dislocation and restoring the utility of the wrist.

An incision was made on the inside of the wrist, and we tried to reduce the dislocation, but hardly made any advance at all. Then an incision was made on the radial side, the extensors pushed backward out of the way, and I cut down presumably on the scaphoid and cuneiform bones. I cut off as much as possible and got better luxation. Three or four weeks ago I operated for the second time to liberate the fingers, and the boy can now grasp some with the hand. When I went inside of the joint I found the annular ligament of the flexor tendons bound down by adhesions to the scaphoid bone. I tried to free them and did so, when I noticed I could get a good deal of motion in the fingers, so I determined to cut them, in expectation of getting as good results permanently, and raise them well up. After I had done this the hand was put up in plaster of Paris, but as the fingers began to swell, I had to take it off. It was then put in a splint, with the board on the back of the hand. The deformity was very great at first. This is the first case of this peculiar dislocation that I have seen.

#### AN ACCIDENT OCCURRING DURING LAPAROTOMY.

*Dr. Peter Hughes.*

Some five months ago I was called in, to see a woman, married, with a child four or five years old, who was

having continuous hemorrhages from the uterus and suffering great pain in the left inguinal region. I made an examination of the case, and found a large mass in that region. Passing my finger into the cul-de-sac, I found it was freely mobile, but bound down on its left side. She was a well-formed woman. She had aborted twice. She knew of nothing from which she could date the present trouble. I made a diagnosis of diseased tubes, and suggested operation.

The physician who had seen her prior to myself said there was no motion on the left side. That put me in a quandary as to the diagnosis and prognosis of the case, and I consequently did not hold a very bright hope for the case. I told her it was a mass in the left inguinal region, and that it would be very dangerous for her to walk around—it might result in instant death. She came back to me in a little while and wanted to go into the hospital for operation. She was prepared for operation, and had voided her urine in a natural way, so she was placed upon the table. I made an incision on the ordinary lines, separated the muscles, and entered the peritoneal cavity. I grasped hold of a mass which I presumed to be a cyst of some kind. It was hard and tense. I thought I had found the trouble, and made a bold incision into it. Then I introduced three fingers into it, and found the contents to be urine and the cyst itself the bladder.

At this operation were two gentlemen on my own invitation. When I found where I was, I thought I would fall through the floor. They were standing there watching me. I said nothing, but passed a clamp through the edges of the bladder and turned it to one side, first packing it with gauze. I then removed the mass in the inguinal region, sutured up the bladder, and treated the abdominal wound. There was no further complaint, and the woman did well.

#### SPECIMEN OF CATARRHAL GASTRITIS.

*Dr. Jacob Fuhs.*

I take the liberty of presenting a specimen to-night which was removed without the patient's knowledge or consent. The case presented symptoms of catarrhal gastritis, and in one of the washings of the stomach this little mass was observed in the wash-water. It was very thin and came away without the loss of any blood. It was, perhaps, the size of half a



pea. It was very pale, and was evidently deprived of what little blood it did have. There were no symptoms following the discovery of the mass, although I saw the patient quite a number of times afterwards—I mean no particular symptoms outside of those usual to the disease. The patient has improved slowly since.

The specimen shows a glandular structure similar to the construction of the mucous membrane of the stomach. The tubules are almost straight, characteristic of the cardiac end of the stomach. You cannot recognize all the cells, but the parietal cells are almost perfect. There is between the tubules a considerable amount of infiltration and also a large amount of cellular material. That is about all you can notice in the specimen. There is very little evidence of catarrhal gastritis; but there is evidence of cellular infiltration. I have seen a single specimen before with almost an identical history. Elements like these appear in nearly every wash-water. They are exfoliations from the mucous membrane of the stomach, which have been deprived of their nourishment and detached.

A second specimen was examined by Dr. Moser and presented the same appearance as this one, that of a practically normal mucous membrane.

The presence of these little particles in the wash-water may be due to mechanical pressure, exfoliation taking place through the small friction the end of the stomach-tube causes, the masses thus getting into it and being drawn off. There is no symptomatology by which one can diagnose when this has taken place.

While this may occur frequently in one case, there may be a hundred others where it does not. Then the only thing to suppose is that there must be a changed condition in one or the other, either in the mucous membrane of the stomach or its contents. The gastric juice may be defective or excessive. There may be pain in the epigastric region after meals, emaciation may set in and anemia result. The patients may improve and then relapse into their old condition. In one case cited by Dr. Fraser the pain was of a burning character and very severe, coming on two or three hours after meals. It was not like the pain of ulceration of the stomach, for there was no point on the abdomen that was especially painful.

With this condition generally there is great emaciation and anemia. In one of my cases there was a hyperacidity and in another there was a deficiency of hydrochloric acid. There is not

what might be called usual symptomatology in these cases. A feeling of depression sometimes follows a meal.

This growth may be a piece of a growth, which should be removed, simply resemble the mucous membrane of the stomach.

Dr. Riegel, in his excellent work on "Diseases of the Stomach," makes a valuable point in the differential diagnosis of this condition, and that of ulcer of the stomach. He thinks it is possible to be mistaken in the diagnosis of these conditions, where there is pain occurring after meals.

Sometimes we are unable to distinguish these cases clinically, and then again we often see post-mortem changes in both conditions, which substantiate the symptomatology.

In this case, as I have said, there was no blood in the wash-water. Emetics caused no blood to appear in the wash-water. I doubt if a piece of the mucous membrane of the stomach can be drawn off without some bleeding. I wish also to remark that in specimens from the wash-water examined by Riegel and Eimer a considerable amount of cellular infiltration was noted. In some cases, where there were exfoliations from the mucous membrane of the stomach the hemorrhage was very severe.

The microscope, with the slide, is here for the members to examine the specimen.

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## MEDICAL SOCIETY OF THE COUNTY OF KINGS.

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### REPORT OF COMMITTEE ON PUBLIC HYGIENE.

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Your committee desires to report that they have met and duly considered the topics referred to them by the Society.

They have been unable to fully consider the complaint made by Dr. Evans, that certain manufacturers were guilty of leaving packages containing tablets for the cure of headaches in the doorways of private houses, for the reason that we have been unable to obtain a sample of them. It is due to Dr. Evans to say that scarcely sufficient notice was given him to present the matter properly to the committee. Upon the advice of the committee, I wrote to Mr. Sidney Faber, Secretary of the Board of Pharmacy, as follows:

"DEAR SIR:—Complaint has been made that certain manufacturers have been guilty of leaving packages of tablets for the

relief of headaches at the doors of private houses. Will you kindly make inquiries of the members of your board concerning the truth of such charge? Assuming this to be the case, will you kindly inform us if the matter falls within your jurisdiction?"

To this the following reply was received:

"Board of Pharmacy of the City of New York,

"February 19, 1899.

"DEAR DOCTOR: Your favor of February 17th at hand, and in reply, I regret to state, that this board has no jurisdiction in the matter. I believe, however, that the Board of Health can stop the abuse, as it certainly is a matter touching public health and welfare. I am, yours very truly,

"SIDNEY TABER, Secretary."

Your committee believe it to be a subject worthy of further consideration, and will be glad to place into the hands of the new committee all the data now in its hands. They have also communicated with the Pharmaceutical Association, but without practical result.

Your committee has also considered the communication presented by Dr. Raymond, from Mr. William C. Jones of Cold Spring Harbor, relative to the establishment of sanatoria in Colorado, New Mexico, Arizona, or Texas for the care of poor consumptives by the National Government and, upon the advice of the members, your Chairman has written Mr. Jones, asking for practical suggestions as to the method of placing the subject before the proper authorities, with a view to enlisting their interest in the plan. As yet your committee have not received a reply from him.

There being no National Board of Health, nor similarly constituted authority, to whom we might address a communication, and the action of a single society, memorializing Congress, would be without effect, your committee do not deem the present a wise time to move in this matter.

The proposition to establish such sanatoria by this State should be sufficient to engage its attention.

Concerning the subject of contact of phthisis, your committee believe that this Society can perform a public duty by presenting suitable resolutions to the Board of Health and to the Board of Education.

The Board of Health have undertaken through appropriate channels to institute measures looking to the location of cases

and their proper instruction, and the disinfection of houses where cases of tuberculosis have lived and died.

But a Board of Health will necessarily be more or less hampered in its endeavors until the general public shall have been thoroughly educated up to the necessity of such requirements.

Acting under the authority of the law, which is mandatory, the Board of Education has introduced the study of the physiological effects of alcohol upon the system. While your committee cannot agree with the teachings now put before the pupils upon this subject, and, indeed, see much to condemn, still they feel that the Board of Education should be memorialized by this Society, to teach the widespread existence of tuberculosis, its nature, contagiousness, and the proper mode of control. That by this course of action an enlightened public will welcome all orders of the health authorities for the declaration and control of phthisis.

The duty of the State as to the education of our children has long ago passed the debatable period, and is now accepted as a fact.

To what extent this is carried depends largely upon the character of the various communities. In the country districts a few graded schools are sufficient for the demands, in the larger towns and the cities this development has been along broader lines, so that the course of study provided in our high schools is ample foundation for any business career, or to build from for a professional career. The acceptance of this duty carries with it obligations which only to a moderate degree have been complied with—notably neglected in the smaller educational districts and in the lower graded schools in the cities. There can be no question that, as to matters hygienic, as pertaining to the schoolroom, light, heat, ventilation, adjustable desks and seats, our educational boards should bring intelligent direction. To what extent they should assume further care as to the physical welfare of the children, the line is not so sharply drawn. But we wish at this time to urge upon our Board of Education the necessity of careful and accurate examination of children as to their vision and hearing: therefore, we suggest that some system be adopted for this, and, if possible, by those who have special training for this work. If this cannot be done at present, instruction should be given to teachers as to methods of examination and recording, so that the children who are markedly deficient can be placed under better conditions for their future welfare.

Z. TAYLOR EMERY,  
Chairman of Committee.

## *HISTORICAL DEPARTMENT.*

### HISTORY OF KINGS COUNTY HOSPITAL.

Previous to the year 1824 each town in the State of New York cared for its own pauper poor, but the Legislature of this year passed an act empowering the Supervisors of the various counties to purchase land—not more than 200 acres—and erect buildings thereon for housing the indigent poor, at a cost not to exceed \$7000, the land and buildings to be a cost on the county. The Supervisors were also empowered to appoint not less than three nor more than five reputable citizens of the county, who should be known as “Superintendents of the Poor,” who should have the purchasing of said farm and the erection of said building thereon.

Accordingly, at a meeting of the Supervisors of Kings County, held March 14, 1829, a Commission was appointed by this Board to inquire into the expediency of establishing a County Almshouse for the County of Kings. This Commission reported in favor of the project, and, in pursuance of this recommendation, the Board of Supervisors convened on the 20th of February, 1830, and appointed Samuel Smith of Brooklyn and David Johnson and Michael Schoonmaker of Flatbush as the first “Board of Superintendents of the Poor” of Kings County. These gentlemen purchased the Martense farm in Flatbush, consisting of 64 acres, for the sum of \$3000, and erected a building thereon which was used as an almshouse and penitentiary conjointly, and while this building was being erected they rented the old Brooklyn Poorhouse, which stood in Nassau street, for two years, at \$360 per annum.

In April, 1832, the Superintendents of the Poor reported to the Board of Supervisors that the Almshouse on the Poorhouse farm was so far completed, that the county poor could be housed there, and this was accordingly done by the neighboring farmers in their farm-wagons. The county poor, consisting of 96 persons, including Mr. and Mrs. Thomas Baisely, who had respectively been the keeper and matron of the Brooklyn Poorhouse, and were continued in office in the new Poorhouse, and the services of Dr. J. B. Zabriskie were procured as the first visiting physician to the County Almshouse, at an annual salary of \$70! At first all

classes of cases were sent to the Poorhouse, including criminals and lunatics, and contagious diseases, but this practice was found to be so inconvenient and inhuman, that it was soon abandoned and separate buildings were erected for the insane and a Contagious Hospital for contagious diseases. The old Asylum, which still stands on the county farm, was built in 1844—a wooden building, 86x36 feet, and stood on the west side of the Clove Road. The present Asylum was begun in 1853, and the present Hospital building in 1849. The building for Incurables was erected 1849 as a Nursery for Children.

As we have already said, Dr. J. B. Zabriskie was appointed visiting physician to the new County Poorhouse, and was given the munificent sum of \$70 per annum for his services. Things were run on a very economical scale in those days. The whole cost of this department of the county was less than \$5000 per year. The Superintendents were very fortunate in securing such a man as Dr. Zabriskie to care for their wards. He was an educated and conscientious physician, and entirely forgot himself in the discharge of his duties towards the indigent poor. In fact, he sacrificed his life in their behalf, for he died of typhoid fever contracted at the Almshouse in 1848. While Dr. Zabriskie was the physician at the Almshouse he had Drs. T. M. Ingraham, Christopher Prince, and Drs. Elmondorf and Wade as students in medicine. At his death he was naturally succeeded by one of his students, both in the Poorhouse and in his private practice in the village of Flatbush, and Dr. Ingraham became his successor in both places. Dr. Ingraham was born in Amenia, Dutchess County, N. Y., in 1822, and died in Flatbush, 1895. He came to the Poorhouse in 1849, as a student and assistant to Dr. Zabriskie. Associated with Dr. Ingraham in the Almshouse was Dr. Philip O. Hyett. Little is known of Dr. Hyett, but it is probable that he resided in the building, while Dr. Ingraham attended to his private practice and visited the Almshouse at stated periods. Dr. Hyett was succeeded by Dr. D. Tilden Brown. The exact date when the one went and the other came is not known, but as the present hospital building was built in 1849 it is probable that Dr. Brown was the first Resident Physician in the present County Hospital. Little is known concerning Dr. Brown, save that he resigned his position as Resident Physician in October, 1851, to take the position of Superintendent of the Bloomingdale Lunatic Asylum, a much more lucrative and responsible position than the one he vacated. In 1869 his name appears

as one of the faculty of Columbia College, as lecturer on psychological medicine and medical jurisprudence. Dr. Thomas Turner was appointed in his place, and remained at the head of the hospital staff until August 16, 1864, when he resigned on account of ill health and retired to the home of his childhood, where he died the following March of phthisis, induced by overwork and confinement in the unhealthy atmosphere of the hospital.

Turner was a rare man, most painstaking and conscientious in his work, and as a diagnostician had few equals; but as an extended notice of him has so recently been published in this JOURNAL, it is hardly necessary to repeat it here. Dr. Turner was succeeded by Dr. R. Cresson Stiles, who remained here only one year. Dr. Stiles was born in Philadelphia, 1830, and died in 1873. He was a graduate of Yale University, and received his degree of M.D. from the University of Pennsylvania in 1854. He spent the next two years in Europe, perfecting himself in pathology and physiology, on which subjects he subsequently lectured in the Vermont Medical College, the Berkshire Medical Institute, Massachusetts, and at the College of Physicians and Surgeons, New York City. During the years '62 and '63 he served his country as surgeon in the army, and at the close of the war settled in Brooklyn. In '64, through the urgent request of Dr. Turner, who had long known Dr. Stiles, the latter was appointed Resident Physician to the Hospital. Dr. Stiles was a very scholarly man, a brilliant lecturer, and a graceful writer. He was fond of experimentation and full of theories. Supersensitive to criticism, he ruined his health by overstudy, and died at the early age of forty-three.

In September, 1865, Dr. Stiles having resigned the August before, Dr. Tunis Schenck, who had been an assistant under Dr. Stiles, was promoted to the position of Resident Physician, and so continued for eleven years. He was born in Flatbush in 1841, and came of good, old Dutch stock on both the paternal and maternal sides. He received his early education at Erasmus Huli Academy, and later graduated at Union College, Schenectady, 1859. Three years afterwards he began the study of medicine with Dr. Thomas Turner, and later with Dr. R. Cresson Stiles, during these years having the advantages of the clinical study afforded by the wards of the Hospital and the course in microscopy given by Dr. Stiles, who was an expert both in the use of the microscope and in the art of teaching the same. In 1872 he resigned his position as Resident Physician, and began the private

practise of his profession in New Utrecht, where he still resides. He became a member of the County Medical Society in 1865, and still continues his active membership. He is also a member of the American Medical Association, and of the Holland Society.

On his resignation as Resident Physician to the Hospital, his brother, Dr. P. L. Schenck, was appointed in his place, and so continued until 1881.

Dr. P. L. Schenck was born in Flatbush October 25, 1843. He likewise received his preliminary education at Erasmus Hall Academy, and graduated at the University of the City of New York, 1859, and in medicine at the College of Physicians and Surgeons, New York, 1865. He immediately became an interne in Kings County Hospital, and later was promoted to the position of Assistant Medical Superintendent, and in 1872 was made Medical Superintendent of the Hospital. In 1881 he resigned this position, and began private practice in Brooklyn, where he still resides.

He was Visiting Physician to Kings County Penitentiary from 1890 to 1894. He became a member of the County Medical Society in 1872, and so continues. He is also a member of the Brooklyn Pathological Society, and the American Academy of Medicine. He is the author of a paper "On the Prognosis of Tumors of the Testis," and memoirs of "Johannes Schenck" of the "Zabriskie Homestead." He was succeeded in the Hospital by John Allen Arnold, LL.B., M.D. Dr. Arnold was born at Choptank, Kent County, R. I., 1845. He was an only son, and received his early education in his native village, and, like most young New England men, he taught school for a short time, and, having reached his majority, he went to New York City, and entered his uncle's drug-store. Here he began the study of medicine, and graduated at the Bellevue Medical College, 1874.

He then received the appointment of Assistant Physician to the Female Lunatic Asylum, Blackwell's Island, where he remained three years, when he was promoted to the position of Acting Medical Superintendent of the New York Lunatic Asylum. This position he relinquished to become Assistant Physician to the Kings County Lunatic Asylum, where he remained until 1881, when he was made Medical Superintendent of the Hospital for Incurables, and in July of this year he was appointed Medical Superintendent of Kings County Hospital, which he retained until 1887, when, on the resignation of Dr. Shaw he was made



General Superintendent of all the Kings County institutions, both at Flatbush and St. Johnsland.

Here he labored assiduously for nearly five years, when, his health being somewhat impaired, he resigned, and, with his friend, Dr. D. A. Harrison, opened a private sanitarium at Whitestone, L. I. Here, he remained about one year, when, at the urgent request of Commissioner Henry, he again accepted the Superintendency of the Kings County Hospital, which position he held at the time of his death. Dr. Arnold had been a victim of diabetes for some years, but, all unmindful of his failing health, he devoted himself to his many duties, until the fall of '96, when he made a long-promised visit to the home of his childhood, and then, suddenly and quite unexpectedly, died, in the very house where he was born, December 4th. To a stranger Dr. Arnold seemed phlegmatic and uninspiring; but those who knew him best appreciated him and loved him most. And, surely, the evidences of sorrow manifested by the poor inmates of the Hospital on hearing of his death were unmistakable signs of his goodness of heart and of the esteem in which he was held by those dependent on his bounty and care.

In the interval while Dr. Arnold was at Whitestone, Dr. Jesse T. Duryea, who had been both an interne and Assistant Superintendent in the Hospital, was promoted to the Superintendency, which position he held for nearly two years, when he relinquished the same to accept the position of Superintendent of the Kingston Avenue Hospital for Contagious Diseases. Here he remained about a year, when he commenced private practice in Flatbush, and was appointed by Dr. Emery, Contagious-Disease Expert to the Health Board, and on the death of Dr. Arnold was selected by the Charities Commissioners to again assume the duties of Medical Superintendent of the Hospital, offering as an inducement a considerably enlarged salary. After mature deliberation he finally accepted the place, where he still remains.

Dr. Duryea seems particularly well calculated for this position, and, thanks to the intelligence and liberality of the present Commissioner, and his immediate predecessors, of which he was a part, has been enabled to make many very great improvements on the old régime. Trained nurses have been substituted for the ignorant and sometimes drunken "help," who had the care of the wards and patients. A convenient and well-lighted operating-room has been fitted up. The drug department has been relegated to a building of its own; and, best, of all, a regular visiting

staff has been organized, composed of the best men in the profession, each in his own special department. So that now the inmates may receive, and do receive, gratuitously, the very best advice and service the medical profession can give. No one not familiar with this institution during the last one or two decades can imagine the vast change for the better, which has taken place here, both in the medical and moral atmosphere of the place; and it is to be sincerely hoped that Commissioner Simis and Dr. Duryea may both be long continued in their several positions, where they are doing such a noble work.

HOMER L. BARTLETT,  
Chairman of Historical Committee.

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DANIEL BROOKS, A.M., M.D.

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Born in Westmoreland, Cheshire County, New Hampshire, in 1813, and died in Brooklyn, N. Y., December 24, 1861. His father was Job F. Brooks, and his mother Polly Babcock, both of New Hampshire.

He was prepared for college in his native place, and entered Yale University, receiving the degree of A.M. in 1839. A few years were spent in teaching, when he began the study of medicine at Castleton, Vt., in 1843, graduating M.D. from the Vermont Medical College in 1845. During the years 1845 and 1846 he was interne in the Insane Asylum at Hartford, Conn., beginning the practise of medicine in Brooklyn, N. Y., in 1846. During the years 1846 to 1850 he was Physician to the Brooklyn Dispensary; connecting himself with the Medical Society of the County of Kings in 1847, in which he held the position of Vice-President in 1859, and President in 1860; delegate to the American Medical Association in the same year.

He married Mary Rankin of Brooklyn, N. Y., in 1852. The children are Mary Sebring and John Rankin Brooks of this city.

Dr. Brooks lived, and died, at his home, corner of Congress and Clinton Street, in the same house in which many of us attended the funeral services of our late ex-President, William Wallace.

WILLIAM SCHROEDER, M.D.,  
Secretary of Historical Committee.

## SOUVENIRS OF THE GRÆCO-ROMAN FESTIVAL.

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Among the lasting memorials of the great and successful Græco-Roman Festival, recently held by the Woman's Auxiliary to the Building Committee of the Medical Society of the County of Kings, is the beautiful China cup and saucer bearing the seal of the society in gilt, and surrounded by a Grecian border, which was designed and sold by the ladies of the Oriental Department; and the souvenir spoon, designed and sold by the Art and Literature Committee.

Like the medals issued by the Entertainment Committee of the County Society on the occasion of the celebration of the centennial of the discovery of vaccination, these souvenirs will be treasured and highly valued heirlooms, long after other records have gone the way of organic materials.

The spoon, as illustrated, is of sterling silver, "after-dinner-



coffee" size, and contains in its bowl a striking representation in low relief of the Medical Library Building, now approaching completion on Grant Square. The dates below (1822 and 1898) indicate the years of the organization of the County Medical Society, and the laying of the cornerstone of the new structure. The handle is a modification of the center of the society's seal, the serpent-twined wand being interlaced with the motto, "Scientia Salusque Deo"

We learn that there are still a few of the spoons and cups to be obtained from the chairmen of the respective committees; and, although the Woman's Auxiliary has been disbanded, the proceeds of their sale will be devoted to the building-committee's fund.

JOSEPH H. HUNT, M.D.

## MISCELLANEOUS.

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### ACCIDENT CHESTS OF LEHIGH VALLEY RAILROAD.

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#### LIST OF ARTICLES IN THE CASE AND THEIR USES.

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1. *Two Rubber Bands.*—For stopping hemorrhage. Apply on sound flesh above the wound. Draw tightly each time, and encircle the limb until the whole bandage is used. Fasten securely.
2. *Six Assorted Muslin Bandages.*—For holding dressings in place, assist in stopping hemorrhage, and hold splints upon fractured limbs. Wind around the injured part from below upwards.
3. *Five Yards Sublimate Gauze.*—A prepared dressing for open wounds. Always use to cover large wounds, apply wet directly to the wound.
4. *One Dozen Pieces of Absorbent Lint.*—To be used instead of a sponge in bathing wounds. Always throw away a piece after using once.
5. *One Ounce Styptic Cotton.*—This cotton is permeated with a substance which stops small hemorrhages. Apply directly to small wounds, and hold in place with muslin bandage.
6. *One-quarter Pound Absorbent Cotton.*—This is for making compresses and to assist in covering a large wound. Do not apply directly to the wound.
7. *One Bottle Sublimate Tablets.*—These small tablets are to be dissolved in clean warm water, in the proportion of one tablet to a pint of water, in order to disinfect a wound and keep it free from infection. They are poisonous if swallowed, or if the solution be drank.
8. *Two Ounces Bicarbonate of Soda.*—For burns and scalds. One tablespoonful to a quart of water; saturate a piece of gauze, and apply over a burn or scald.
9. *Four Surgical Needles.*—To be used in closing small cuts or jagged wounds after thoroughly cleansing with the sublimate solution.

10. *Pair of Scissors*.—Used in cutting dressings, bandages, clothing, etc.

11. *Pair of Forceps*.—Used for removing bits of gravel and to seize a bleeding artery while it is being tied.

12. *One Bottle Carbolyzed Silk (three sizes)*.—To be used in tying a vessel when it is seen free and bleeding, in a wound; also for closing small wounds. Never replace into the bottle any piece that has been used.

13. *Two Ounces Green Soap*.—This is perfectly bland soap, which should be used in cleansing an injured part around a wound. Apply and wash off with the pieces of absorbent lint.

14. *One Roll Rubber Adhesive Plaster*.—For closing small torn or cut wounds, after they are cleansed with the sublimate solution. It needs no heat; apply directly to the skin, which must be perfectly dry, however.

15. *One Pyramid Pins*.

16. *Six Safety Pins*.

#### RULES FOR TREATMENT OF THE INJURED IMMEDIATELY AFTER AN ACCIDENT.

1. *Shock*.—This condition usually follows every severe injury. The chief point is to restore heat to the body, as soon as the injured person is put in a comfortable position. Do this by covering with heavy coats, previously warmed—if practicable. Cut off the shoes or boots, and envelop the feet in a warmed coat or blanket. Give only small dose of whisky in hot water.

2. *Hemorrhage*.—This follows shock, and is rarely severe until reaction takes place. Too much stimulation increases hemorrhage and for this reason it is best to give only a little stimulant, well warmed, and repeat the dose if reaction is delayed.

Bleeding is of two kinds. (1) Arterial, when the blood comes out bright and red and in spurts; (2) Venous, when the blood is dark and flows in an even stream.

A. *To Stop Hemorrhage*, when the wound is large and the blood comes out in spurts. Apply the rubber band tightly just above the wound, previously raising the wounded part, especially if it be a limb. Be careful to put the band on uninjured flesh if the limb be badly crushed, and about three inches above the crushed tissues, else it will slip down and increase the hemorrhage. Be very careful to see that the band be firmly hooked and fixed

before leaving it. Small wounds, even though the hemorrhage be arterial, require only a firm compress of the sublimated gauze placed immediately over the wound, and bandaged tightly in place with one of the muslin bandages. It is best after this to bandage firmly from the extremity (hand or foot) upwards to beyond the wound with the muslin bandages.

B. *Venous Bleeding*, which occurs when the wound is shallow (does not go deeper than the skin), as a rule, requires firm pressure over the wound, and especially below it. If the wound be quite small, put a wad of styptic cotton into and over it and bandage tightly in place and then apply a bandage from below upwards over and beyond the wound. If the wound be extensive, fill it full of sublimated gauze, and then put a thick wad of absorbent cotton over it and bandage tightly from below upwards.

C. *Bleeding from the Head*, if only the scalp is involved, may also be controlled by drawing the rubber band around the head, encircling it just above the eyebrows. This is very painful, however, and, unless the bleeding be very severe, it may be controlled by bringing the wounded or torn surfaces together, and applying along the wound a thick layer of styptic cotton, and over this another layer of absorbent cotton and a tight bandage. It is well to pass the bandage under the chin if the wound be on the top of the head, as this holds it firmer and tighter.

3. *Remove the Clothing* from a wounded part by cutting it away. Do not attempt to tear or draw clothing off, as this may further injure the wounded part. Always see the wound, and know by your eye just what the nature of it is.

4. *After Hemorrhage Has Been Stopped*.—The next point is to prevent the wound from being infected and thus prevent blood poisoning. To accomplish this the wound should be cleaned if badly soiled. If soiled by oil and soot or dirt, bathe it gently with a small quantity of green soap and warm water. After it is apparently clean, wash it out carefully with a pint of warm water in which one of the corrosive-sublimate tablets has been dissolved, using the bits of lint to do this. Then wet several layers of the sublimated gauze in a fresh solution of the same strength used in washing the wound, and lay them over the wound and bandage in place with a muslin bandage. Always cover an open wound with a piece of gauze wet in the solution of corrosive sublimate (three tablets to a pint of water) before transporting the wounded man. Never allow an open wound to remain unprotected longer than the time employed in stopping

hemorrhage. Remember a soiled covering is worse than none at all, however.

5. *Fractures*.—If a bone be broken in any of the limbs the member should be firmly fixed before the injured individual be moved. If this be not done, great injury may result by the movements of the sharp fragments of the broken bone while the individual is being transported. Any flat piece of smooth board or slat, broken or cut into strips long enough to reach beyond the two nearest joints will do. A bundle of twigs or stout straw may also serve when nothing else is to be had. Always put one of the improvised splints on either side of the limb, then tie a bandage over the splints at either extremity and in the middle. If there be a wound treat it according to the foregoing rules and then apply the splints, using some clean "waste" as padding or some strips torn from clothing. If there be no wound apply the splints over the trousers or sleeve. If nothing of any kind can be obtained to make a splint, tie the fractured leg or thigh to the sound one, or the fractured arm firmly to the side of the body, by a muslin bandage.

6. *Compound Fractures* are fractures accompanied by a wound of the soft tissues at the point of fracture, so that the bone is exposed to the air. In these cases treat hemorrhage and the wound according to the foregoing rules, and then apply splints. If the bones project beyond the skin remember to bring them back into place by pulling the extremity in the direction of the displacement, never in the direction the bone normally should be, until the ends of the fragments are quite free from any over-riding. Be very careful always to cover these wounds with the wet sublimate gauze and bandage it on.

7. *Burns*.—Carefully remove the clothing by cutting it off, if the part be clothed, and apply immediately three or four thicknesses of the sublimate gauze wet in warm water, in which one tablespoonful of the bicarbonate of soda to the quart has been dissolved. As a rule never attempt to clean burns immediately after they occur. Cover the wounded part immediately as directed above and leave the cleansing to the surgeon afterwards.

Extensive burns are attended by great shock as a rule and require free stimulation. As burns are very rarely followed by hemorrhage, stimulants may be and should be given in considerable quantities.

8. *Prostration from Excessive Heat*.—In these cases (not sunstroke) the face is pale, lips colorless or blue, breathing slow

and quiet, pulse slow and very weak. Place the patient on his back, with his head level with his body and loosen clothing. Apply heat to the surface of the body and extremities. Bathe the face with warm water into which a little alcohol or whisky has been poured, and if he can swallow, give the patient an ounce of whiskey in as much warm water.

*B. Prostration from Drinking too Much Ice Water When Overheated.*—The face is red or even purple, breathing heavy and irregular, pulse irregular. Loosen clothing, place on back, with head slightly elevated. Give hot drinks, apply heat to the spine and the extremities.

9. *Position in Which a Patient Should Be Placed After Injury.*—Injuries to the head require that the head be raised higher than the level of the body. In all cases, if practical, lay the patient on his back, with the limbs stretched out in their natural positions; loosen the collar and waistbands, and, unless the head be injured, remember to have the head on the same level as the body—do not bolster it up with anything.

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#### ITEMS OF INTEREST.

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*Dr. Henry Conkling* announces his retirement from the practice of general medicine.

He will not assume the care of general medical cases in the future, as his work will be limited exclusively to diseases of the heart and lungs.

*The Third International Congress for Gynecology and Obstetrics* will be held at Amsterdam from August 8 to 12.

The leading questions for discussion will be the following:

1. The surgical treatment of fibro-myoma.
2. The relative value of antiseptics and improved technic for the actual results in Gynecological Surgery.
3. The influence of posture on the form and dimensions of the pelvis.
4. The indication for Cæsarian section compared to that for symphysiotomy, craniotomy, and premature induction of labor.

*Diagnosis of Typhoid Fever.*—In a paper by Dr. H. Stuart McLean of Richmond on "Microscopical Diagnosis of Typhoid Fever," the author emphasizes the following points:

1. The absence of leucocytosis is strong evidence that an



existing fever is typhoid, malarial fever being excluded by absence of the plasmodium.

2. If leucocytosis does occur in the course of an unmistakable case of typhoid it indicates some untoward complication.

3. Both feces and urine should be carefully disinfected throughout the course of the disease. Too often directions to this effect are omitted by attending physicians.

4. Widal's reaction is diagnostic in many cases in which, at the time, the clinical findings are obscure.

5. The value of serum diagnosis, as well as other methods, must be determined by the practitioner who controls the case upon whom the tests may be made.

Dr. McLean states that in appendicitis with pus formation there is always leucocytosis, varying from 10,000 to 50,000 white cells per c.c. This differentiates it from such diseases as typhoid fever, floating kidney, fecal impaction, ovarian neuralgia, extra-uterine pregnancy, and hepatic or nephritic colic, which are not accompanied by any increase in the number of white corpuscles.

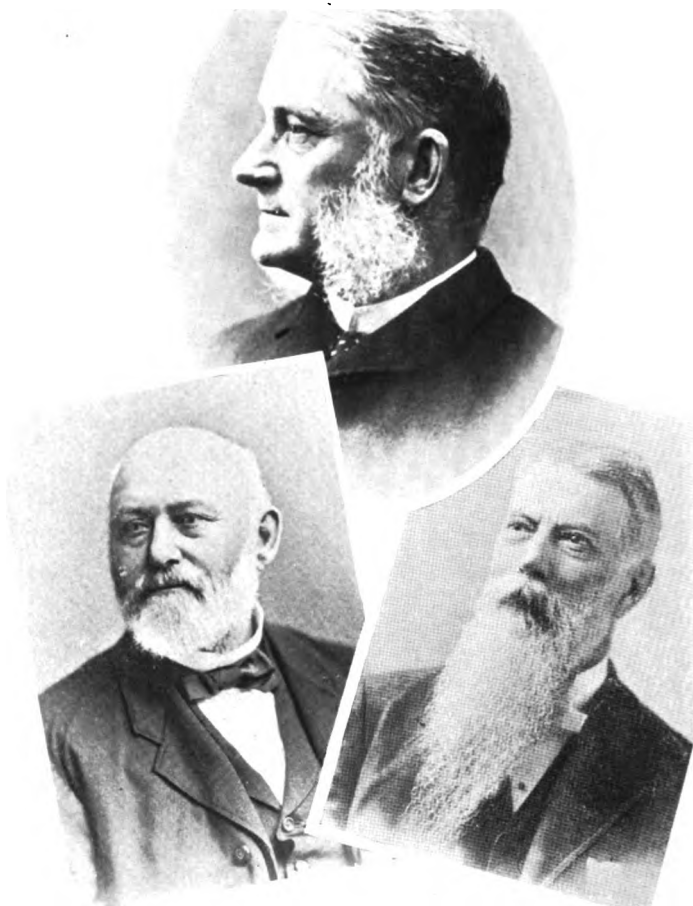
In cases where, for any reason, an operation cannot be performed a count of the white corpuscles is valuable in determining both the extent of the disease and its probable termination. Successive blood counts afford a reliable index of the progress of the disease. In cases where there is an abscess well walled off, the leucocytosis remains stationary. If the disease be progressing toward an unfavorable termination—*i. e.*, increasing pus formation, the leucocytosis correspondingly increases, counts every two to four hours, showing changes more or less marked, depending upon the rate of pus formation. On the other hand, if the purulent material is being absorbed, discharged into the bowels, or evacuated in any manner, the blood count shows an immediate diminution in the number of leucocytes, rapidly approaching normal.





**DANIEL BROOKS, M.D.,**  
**President, Medical Society County of Kings, 1860.**





**JOSEPH C. HUTCHINSON, M.D.**

**TIMOTHY MURPHY INGRAHAM, M.D.**

**ISAAC HENRY BARBER, M.D.**

# THE BROOKLYN MEDICAL JOURNAL

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## ORIGINAL ARTICLES.

No paper published or to be published elsewhere as original will be accepted in this department.

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## ON MENTAL SUGGESTION AND CHARLATANISM.

BY P. SCOTT, M.D.

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Read before the Brooklyn Medical Society, December, 1898,

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In Niemeyer's Text-book of Practical Medicine there is in the section on Croupous Pneumonia the following paragraph:

"We must not forget," he says, "that the natural course of pneumonia is more decidedly cyclical than that of almost any other disease, and that, left to itself, in a vigorous patient, if uncomplicated, and of moderate intensity, it almost always ends in recovery. This fact has not been known till quite recently (1859). We have to thank the so-called expectant mode of treatment of the Vienna School and the success of the homeopaths for this important discovery, from which the following rules are to be drawn: Simple pneumonia attacking persons previously in good health requires no more active treatment than does erysipelas, smallpox, measles, or other diseases of cyclical course, provided only that the extent of the disease be moderate and that there be no complication."

Readers of Niemeyer's work will admit that he was to a great extent under the influence of the School of Vienna, and that it is more common to find an expectant mode of treatment in his work than a recommendation to the over-use of drugs. In fact, the art of medicine was, at this time, only beginning to recover from the effect of the nihilistic teachings of Skoda, through whose influence, first in Vienna, then through all Germany, the practice of medicine had degenerated into simple diagnosis.

The admission concerning the homeopaths which has been quoted from Niemeyer may be found in other writers of the same period. In Sir John Forbes' book on "Nature and Art in the Cure of Disease," though careful to point out that he in no way indorses the homeopathic mode of treatment, yet he admits their success in treating diseases, and ascribes this success to Nature:

"Of all the examples of the great power of Nature in curing diseases, supplied by the records of medicine or by its actual practice, there is none which, in point of extent or in force of evidence, can compare with that furnished to us by the new school of practice known by the name of Homeopathy. We have a right to assume that all, or nearly all, the results exhibited in the practice of the homeopaths are the product of Nature's operations alone or of these operations aided by the two kinds of agency mentioned—regimen and the expectation of the patient."

The views held by these two writers, Niemeyer in Germany and Sir John Forbes in England, may fairly be said to represent the best opinion regarding the practice of medicine in the middle period of the present century.

Since that time many changes have taken place. In physiology, in pathology, in therapeutics and in pharmacology great advances have been made. The art and practice of medicine may not be a science, but it is at the present day based on Science.

As a rule we do not approach the patient as in the days of Skoda merely to diagnose and then rest contented. The expectant mode of treatment is almost a thing of the past. Which of us attending a case of uncomplicated pneumonia, in a vigorous patient, the disease being of moderate intensity, would dare to leave it to itself and assure the patient that that was the most approved method for this particular case?

Dr. Gairdner of Glasgow was in the habit of telling his students that in a large number of typhoid cases, perhaps quite the majority, the chief function of the physician at the bedside was to act the part of a buffer, and ward off harmful interference.

But which of us at the bedside of a patient suffering from typhoid fever, in a young adult, the disease being of moderate intensity, and without complications, would assure the patient that no remedies were required, and that recovery was certain to come with simple regimen and absolute rest?

Some of us may act almost up to the point indicated, but there is a lingering tendency in the mind of the physician that he ought to be doing something, that he may be doing wrong if he does not do this, that or the other thing; and there is also, which counts for a good deal, the belief in the mind of the patient that something ought to be done.

On the other hand, where there are complications in such cases as pneumonia or typhoid, and more especially where the case is of more than ordinary severity, then we do not hesitate to do all that possibly can be done, and that means using a large number of drugs, a large number of means outside the list of drugs, and a very large list of directions in the way of nursing.

The question here arises, Are we not likely to overdo this treatment? Are we not prone to make use of too many drugs? And are we not very liable to use those remedies and appliances in the milder cases, simply because we would not hesitate to use them in the more severe cases? Are we not at the present day leaving *too little* to nature, discarding the old dictum that "Our natures are the physicians of our diseases?"

Is it possible that the tendency of the laity of late years to throw aside all drugs of every kind and resort to faith cures, cures and Christian Science is a reaction against the over-use of drugs in the hands of the modern scientific physician?

I think it might be admitted by the candid mind that, to some extent, though by no means altogether, the tendency on the part of some of the laity to go back to a nihilism in regard to treatment, to deny the power of drugs altogether as is done by some of the so-called Christian Scientists, arises from the over-use of drugs by the scientific physician. But if the over-use of drugs in the hands of the physician is to be blamed for the vagaries of the faith or mind healer, what is to be said of the excessive, monstrous use of drugs by the laity themselves?

Was there ever a time in the history of civilization when the common people took upon themselves, to the extent that they do now, the functions of the physician? Was there ever a civilized country where the free and enlightened citizens felt so abundantly competent to criticise medical opinion as they do in these United



States? It seems as if the more complicated the questions, the more difficult the problems the physician has to solve, the more ready is the uneducated and untrained citizen to step right in and offer advice. Our best newspapers are covered with advertisements of patent nostrums; our leading citizens, and even our leading clergy, are ever ready to indorse them. For every ache or pain there is a remedy, or rather a multitude of remedies. The average American citizen is, before he or *she* has reached middle age, saturated with patent or proprietary nostrums.

Perhaps after all the change of belief to mind cure or faith cure will prove to be a good thing for the public generally. This would at least give an opportunity to see just how much can be done through a pure expectant mode of treatment, without interference with any therapeutic measures.

Here, however, a great danger becomes obvious; for those who believe in this new nihilism are, with scarcely a single exception, entirely ignorant of medicine, or of disease, or of any of those sciences upon which the study and treatment of disease is based. The danger lies in the fact that because a certain number of cases get well in the hands of the mind curer or healer, he or rather she comes to the absurd conclusion that *all diseases* can be treated in the same manner.

Undoubtedly the constantly keeping before the mind of the patient, the idea of a great power, antagonistic to disease—call it Divine Principle, or Spirit, or God—has a great effect on the progress of the patient and increases the expectation of the patient toward a favorable result.

The question arises here, Have we, as physicians, hertofore made use of mental suggestion to the extent that we might have done?

If the ordinary medical practitioner has failed to pay the attention to this subject that it deserves, it is not because the effect of mental suggestion has failed to receive attention at the hands of some of our best authors in medical literature. Stokes, Graves, Trousseau, Paget, Maudsley, and Tuke have spoken of the effect of the mind on the progress of diseased conditions.

Paget tells of a case of tumor of the breast, which the patient believed to be cancer, being entirely cured after he had assured the patient that it was not malignant and that it *would* soon disappear; and this without any other treatment, internal or external.

The medical student is quite familiar with the effect of mental disturbance on the act of micturition, the effect of anger or ex-

citement on the lacteal secretion, and the effect of fear on the action of the bowels. The concentration of the mind upon any organ of the body may excite the action of that organ.

The fear of the dentist's forceps is quite potent enough to cure many a toothache. It is impossible to tell, however, beforehand the extent to which any individual case is susceptible to suggestion. The condition of the mind of the patient, plus the bodily constitution of the patient, plus the variety and extent of the ailment the patient is suffering from, makes it a very difficult problem to say how suggestion will act in any individual case.

But whatever may be said in favor of the use of mental suggestion through the use of the ordinary spoken word in increasing the expectation of the patient toward recovery, it is far surpassed by the use of suggestion under hypnotism. The subject of hypnotism is too large to enter into here to any extent, but it may be noted that the increased suggestibility of the person hypnotized is a point of prime interest, as far as its use as a therapeutic is concerned.

Without going into detail as regards the method of producing it, or the various stages of conditions produced, let me rather devote the time to a list of the diseases or conditions cured or alleviated by means of it. We cannot read the works of Bernheim, Liebault, Kingsbury or Bramwell on this subject and not be filled with wonder at the variety of cases that have been relieved by means of hypnotic suggestion.

Among Bramwell's cases we find urinary fistula, insomnia, dipsomania, pruritus vulvæ and eczema, hyperhydrosis, headache, with ciliary spasm; Kingsbury of Dublin gives the following: Rheumatism, muscular and articular; sciatica, pleurisy, headache, indigestion, spasmodic affections such as coughing and sneezing, writer's cramp, constipation, diarrhea, anemia, hysteria, hysterо-epilepsy, gastralgia, stammering, enuresis, neurasthenia. Dr. Liebault found that only 27 out of 1,012 patients failed to be hypnotized. This forms about 97 per cent. who did not fail. It is an error to suppose that only weak-minded or hysterical persons can be hypnotized; on the contrary, intellectual people with well-balanced minds are often readily influenced. In fact, intelligent cooperation on the part of the patient is of great assistance to the hypnotizer. It is also an error to suppose that only a few possess the power to hypnotize; almost every one possesses the power, though in variable degrees.

Briefly, it may be stated that those qualities in a medical man

that inspire confidence on the part of the patient will enable him the more readily to hypnotize the patient; confidence in himself and confidence in the good to be derived from the treatment are requisites.

There are many objections to the use of hypnotism. An examination of these objections shows that they are an exact reproduction of the objections against the use of anesthetics and narcotics. Now the objections to the indiscriminate use of anesthetics and narcotics are valid, and not to be treated with contempt. The same may be said of the indiscriminate use of hypnotism. It should not be used by the public for amusement any more than in the case of anesthetics. It should only be used in the presence of a reliable witness, as in the case of anesthetics. The many other objections to hypnotism have been ably met by Kingsbury, whose work is published in Vol. xii. of "Wood's Monographs."

So far purely physiological explanations of hypnotism have failed, and we must turn to psychology for some better theory.

Mr. Frederic W. H. Myers has recently given us such a theory from a psychological standpoint. He compares the relations between hypnotism on the one hand and hysteria, genius, sleep and somnambulism on the other, and shows by such comparisons that the essential meaning of hypnotism is always the same *viz.*, a fuller control over subliminal plasticity.

The phenomena are due to suggestion, but this is not mere ordinary persuasiveness. The suicidal melancholic may become an active hospital nurse; the morphinomaniac may become a successful man of business, but this transformation can rarely be produced by ordinary suggestion. What hypnotism does is to unlock a fountain of energy heretofore latent within the man's own being.

"Beneath the threshold of waking consciousness there lies not merely an unconscious complex of organic processes, but an intelligent vital control. To incorporate that profound control with our waking will is the great evolutionary end which hypnotism, by its group of empirical artifices, is beginning to help us to attain." (BRITISH MEDICAL JOURNAL, September 10, 1898.)

Hypnotism, then, produces a fuller control over subliminal plasticity, or a fuller control over the formative forces that lie under or beneath the threshold of consciousness or sensation. Now let me ask you if the wonderful results said to be brought about by mental healing or faith cure, or by Christian Science are not somewhat similar to, if not quite identical with, the results of hypnotism. Is it not likely that the patient, under the influ-

ence of the mind-curer and in a frenzy or ecstacy somewhat akin to religious excitement, is in such a condition as the hypnotized person is? Not that the two conditions are identical; that is not what is meant, but the two conditions are sufficiently alike to suppose that what takes place in the one may happen in the other, namely, a fuller control over the formative forces that lie under or beneath the threshold of consciousness or sensation. One thing may be here noted as bearing on this part of the subject, and that is that the diseased conditions that are alleviated or cured by hypnotism are, in the main, just those conditions that you find the faith-curer or Christian Scientist most successful in.\*

And while in the one case the process is started by suggestion coming from the hypnotizer, in the other case the process is started by anti-suggestion brought on by a profound contemplation of the Divine Principle or by listening to the rhapsodies, or, if you would rather, nonsensical rigmarole of Mrs. Dr. Eddy.

Suppose, now, we were to take common, ordinary suggestion, which we know to be eminently useful in our daily practise, or were we to take hypnotism, which we may admit has been proved to be of the highest utility in the hands of men like Bernheim or Bramwell, and putting them before all other methods of healing, declaring that all other methods were useless and even dangerous, and promising to the laity that all diseases and infirmities could be cured by these means, and by these means alone, we would be guilty of the grossest charlatanism or quackery. Yet that is exactly what is being done by the mental healers and Christian Scientists at the present day.

In spite of the spread of general and higher education, the gullibility of the public is now at its highest point of intensity.

To assure a commercial success to a new nostrum, a new patent cure-all, it is necessary to give it a well-sounding title, something to catch the public eye, as in the case of some well-known nostrums. So here, too, mind cure and faith cure were not sufficient.

A compound aromatic syrup of senna may be all very good in its way, but Castoria is a complete commercial success. A mixture in solution of several of the best and well-known non-poisonous antiseptics may be all very good in its way, but give it the name of a world-renowned surgeon and a complete commercial success is assured.

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\* See case of hysterical paralysis cured by prayer quoted in Tanner's "Practice of Medicine," Vol. I., page 502; Taken from Mrs. Oliphant's "Life of Edward Irving."

So, too, mind cure or faith cure may be all very good so far, but call it Christ's cure, or Christian Science, and your commercial success is assured.

#### CHRISTIAN SCIENCE.

Of all the different forms of quackery in medicine, that which appeals to the religious feelings is the most abhorrent to the scientific mind, and in that product of the last years of the 19th century called Christian Science we have an extreme example of it. It is scarcely possible for one to look into this subject and keep calm and judicious, for at every step one sees the utter powerlessness of ordinary language to describe the indignation and horror that arise at the extraordinary beliefs expressed. As you pass from page to page of Mrs. Eddy's book on Science and Health, or Miss Lord's book on Christian Science Healing, you feel inclined to say that there were only two men who were able to deal with this subject and give it justice.

But as Jonathan Swift and Thomas Carlyle are both dead, we will try and treat the subject as calmly and judiciously as possible under the circumstances, admitting at the outset that the subject is more fitting for a satirist than for the student of medicine.

It will probably not surprise any one to learn that Mrs. Eddy, the founder of the Church of Christ, Scientist, was at one time a homeopathic practitioner, who made use of high dilutions and high potencies. To pass from a belief in medicines so highly attenuated that no test, chemical or otherwise, could detect their presence, to a belief that cures, when they did take place, were the result of mind and *mind only* was an easy transition for this lady. Having once decided that mind was all in all and that medicine was nothing, she investigated further and discovered Christian Science. While claiming to have discovered it, she at the same time claims that it came to her as a revelation. "The Divine Spirit, testifying through Christian Science, unfolded to her the demonstrable fact that matter possesses neither sensation nor life. The Scriptures were illumined, reason and revelation were reconciled, and afterward the truth of Christian Science was demonstrated. No human pen or tongue taught her the science contained in this book, 'Science and Health,' and neither tongue nor pen can ever overthrow it. The Divine Science, rising above physical theories, excludes matter, resolves things into thoughts, and replaces the objects of material sense with spiritual ideas."

The revelation consists of two parts:

First. The discovery of this Divine Science of mind healing through a spiritual sense of the Scriptures.

Second. The proof by demonstration that the so-called miracles of Jesus did not belong to a dispensation now ended, but that they illustrate an ever-operative Divine Principle.

"Matter is nothing but a mortal illusion, wholly inadequate to affect man through its supposed organic action or existence. Christian Science teaches that matter is the falsity, not the fact, of existence. That nerves, brain, stomach, lungs have as matter no intelligence, life or sensation."

She claims that Christian Science, if it occupied the place in our institutes of learning now occupied by scholastic theology and physiology, would eradicate sickness and sin in less time than the old systems devised for subduing these evils have required for self-establishment and propagation.

She attack theologians in the same way as she attacks physicians, but we must avoid here speaking about her theology. It has been called profanity by some of her critics, by others a pure religion without dogma.

This Divine Science, she says, "acts as an alterative, neutralizing error with truth. It changes the secretions, expels humors, dissolves tumors, relaxes rigid muscles, restores carious bones to soundness. Belief," she states, "is all that ever enables a drug to cure mortal ailment." She even has the boldness to state the converse of this. For if a small dose of a poisonous drug is taken by mistake and the patient dies, even though physician and patient and friends expect a favorable result, it is belief even then that causes death; for the vast majority of mankind, though they know nothing of this particular case, believe that arsenic or strychnine are poisonous. The consequence is that the result is controlled by the majority of the opinions outside, not by the few minds round the patient. "Were there fewer doctors and were less thought given to sanitary subjects there would be better constitutions and less disease. In old times who ever heard of dyspepsia, cerebro-spinal meningitis, or hay-fever, or rose-cold? The Divine Science finds that decided types of acute disease, however severe, are quite as ready to yield to Truth as the less distinct type and chronic forms of disease. It handles the most malignant contagion with perfect assurance. Christian Science divests material drugs of their imaginary power, and clothes Spirit with Supremacy."

"With Pagan blindness, sense attributes to a material God of

Medicine an ability beyond itself; the beliefs of the human mind rob and enslave it, and then impute this result to another illusive personification named Satan."

That medical treatment is highly immoral is pointed out thus: "Drugs, cataplasms and whisky are stupid substitutes for the dignity and potency of Divine mind and its power to heal. It is pitiful to lead men into temptation through the by-ways of physiology and materia medica, to victimize the race with intoxicating prescriptions for the sick, until mortal mind acquires an educated appetite for strong drinks, and men and women are made loathsome sots."

Oliver Cromwell's advice was to "Trust in the Lord and keep your powder dry." But Mrs. Eddy would apparently say: "Trust in the Lord and throw your powder away." While Christ healed the sick and practised Christian healing and taught the *generalities* of its Divine principle, it remained for Mrs. Eddy to discover and demonstrate the definite rules of healing and preventing disease. "Why," she asks, "should one support the popular systems of medicine when the physician, perchance, may be an infidel and loses ninety-nine patients while Christian Science cures its hundred. Treatises on anatomy and physiology and health are the promoters of sickness and disease." To reduce inflammation, dissolve a tumor, or cure organic disease Mrs. Eddy has found mind more potent than all lower remedies, and the only road to this affluence of Truth which heals the sick is found in Divine Science—that is, Mrs. Eddy's Christian Science. She is very careful to warn patients and students against using any other work except hers; other works borrowed from this book without giving it credit have adulterated the science. Hers is the only voice of Truth to this age, and Mrs. Eddy claims proprietorship in the same way that owners of patent nostrums claim proprietorship in their wares. She does not, however, condescend to give any definite directions as to how all this is to be done. On the other hand, she states that it is not hypnotism, nor spiritualism, nor electricity, nor thought transference, nor is it mental medicine, nor mind cure, nor faith cure, and to that *we* might add: It is not Christianity, and it is not science.

Her claims are so preposterous, her language so unfriendly to every branch of human education, and her attitude to other workers in faith or mind cure so unchristian, that many of her own followers are repelled and disappointed.

For information regarding the practise I must refer those of

you who are curious about the matter to Miss Frances Lord's book. There you can find the most minute directions regarding the language to be used between healer and patient. Treatment is always given silently; the thoughts are not expressed *audibly*. Absent treatment is as good as present treatment; they may be combined. Diseases of the soft structures yield easier than those of the bony parts. Hence a beginner should take hold of such as dyspepsia at first. A decayed tooth does not yield to treatment; better see a dentist, and so on.

In this country they claim to have 200,000 adherents or followers. They have churches and dispensaries all over the United States. There are altogether thirty-eight teaching institutes. Three of these are in New York City and one in Brooklyn. The fee charged is usually \$100 per course, though one institute offers to take husband and wife for one fee. In New York and Brooklyn there are about 100 Christian Science healers, whose names are in the directory of the *Christian Science Journal*. Other cities, like Buffalo, are even better supplied. It is a curious thing that the proportion of males to females in this work is about ten or fifteen of the former to one hundred of the latter. That these people are making a regular business of this thing may be proved by the following: Letters were sent to several of them, asking how much they would charge for treating a certain case. The writer has now three letters offering to take charge of a case of cancer and give the patient absent treatment for five or six dollars a week.

Three from different healers offering to take charge and give absent treatment to a case of white swelling of the knee-joint for about the same terms.

Two letters likewise regarding a supposed case of heart disease.

And five letters from different healers offering to treat a case of epilepsy for about five or six dollars a week for absent treatment. No questions asked as to what or where or how; simply send the money and they will begin treatment at once. I shall only read one of these letters, as they are all very much alike:

"Dear Madame: As you are so near my home I should prefer calling on you, though in case of greater distance should take case without visit. I shall charge you nothing for this visit unless after speaking with me you desire me to take the case, and will therefore defer answer to your questions until we speak together. I will, however, say that I have healed epileptic patients, and that



epilepsy is as curable in Christian Science as a cold or rheumatism. I will be very glad to explain this to your satisfaction if you will give me an appointment, etc., etc. Respectfully yours,

“\_\_\_\_\_,  
“New York.”

In view of this letter we might ask: “Why should the managers of the Craig Colony go on with the work they are doing if their cases could be cured by the Christian Scientists just as easy as a cold or rheumatism? Now, it is manifestly unfair and unjust—in fact, it is intolerable—that the young man who desires to become a physician or a surgeon must pass four of the best years of his life at an expense of from two to three hundred dollars for fees alone, and at the end of that time pass examinations, college and State, before he is permitted to attend a case or charge a fee; while, on the other hand, any young or middle-aged or aged lady who pays fifty or one hundred dollars to a Christian Science institute for twelve lessons can have her name put on the Christian Science registry and charge six dollars a week for treatment, absent or present.

Now the question arises, Are these people practising medicine or are they not? Whether they are or not seems to hinge on the meaning given to the word physician. The law of New York is a good example of a good law with a very grave defect. It states that in this law medicine means medicine and surgery, physician means physician and surgeon, but omits to define exactly the words physician and surgeon. Turning to Gould’s Dictionary, we find that Physician is “one who practises medicine”; while in the Standard Dictionary, he “is one versed in or practising the art of medicine, or healing bodily disease by the administration of remedies.” Specifically, “One legally authorized to treat diseases.”

So the Christian Scientists are not physicians in the meaning of the law of the State of New York. They do not administer medicines to cure diseases, and they are not legally authorized to treat diseases. But it is manifest that they offer to usurp the place of the physician. They do offer to treat diseases, though unauthorized. Therefore they should be made to submit to the requirements of the law.

In the State of New Hampshire the medical law is unique. It makes special provision to exempt from registration hypnotists, mind or faith curers and Christian Scientists, so called, if no drugs

are employed, no surgical operation performed, and the title of M.D. or Doctor not used.

The laws of the States of New Jersey and Ohio contain a clause reading thus :

"Any person shall be regarded as practising medicine or surgery who shall append the letters M.D. or M.B. to his or her name, or prescribe for the use of any person or persons any drug or medicine or other agency for the treatment, cure or relief of any bodily injury, infirmity or disease."

Now, though the Christian Scientist would surely admit that the Divine principle was an agent, it could hardly be held that she *prescribed* the Divine principle, though she may admit using it.

The Ohio law varies somewhat from that of New Jersey in that it introduces the question of fee, thus: ". . . who shall append the letters M.D. or M.B. to his name, or for a fee prescribe, direct or recommend for the use of any person any drug or medicine or other agency for the treatment, cure, relief," etc.

In this case the Christian Scientist would not deny that she *for a fee* directs or recommends the Divine principle for the treatment or cure of bodily infirmity or disease. The court in Ohio, however, has decided that the words "any other agency" were limited by the particular words *drugs or medicine*. Returning now to the law of the State of New York, Section 153, Penalties and Their Collection. This section imposes penalties on any one practising medicine, not being legally qualified, or on any one assuming or advertising the title of Doctor in such a manner as to convey the impression that he or she is a legal practitioner of medicine or any of its branches. All of which the Christian Scientist does not do. She does not practise medicine, nor use the title M.D. or Doctor, or pretend to be a legal practitioner of medicine in any of its branches. It would therefore seem to be very difficult to obtain the conviction of a Christian Scientist under this law. In any proposed change in the medical laws of this State, it would be necessary to define the word physician so that no doubt could possibly exist as to what was included in the meaning of the words "practise of medicine or surgery."

It would be absurd to contend that a physician always used drugs or medicines when he treats a case. Any physician can supply examples of diseases that might be treated, and are treated, without drugs or medicines.

It is questionable whether reference to fee should be made in any such law, for the Christian Scientist tries to evade the law in

some cases by maintaining that the fee is asked for and given, not for treatment of disease, but for lessons in Christian Science.

If any attempt should be made to obtain legislation in this matter, the absurd arguments brought up in favor of Christian Science ought to be borne in mind. First, that it is a religion. If it were admitted that Christian Science is a religion, it would simply be because its votaries call it a religion; and in that case it would have to be admitted that the practise of medicine is a religion also—at least, Mrs. Eddy has pronounced it an idolatry and the giving credence to Satan that ought to be given to immortal mind. And if it were admitted that Christian Science was a religion, as soon as it is proved to be dangerous to the community the courts ought to suppress it as the courts have done in other instances of religions dangerous to the community, as in the case of the polygamy of the Mormons. Most of us would hold that the danger of Christian Science to the community has been abundantly proved during the last six months.

Third. That the regular practitioners are trades unionists. This argument is too absurd to take any further notice of.

Fourth. We often hear reference made to the connection that physicians have to the graveyard by some persons who are determined to get off a stale joke, no matter what the subject may be. But it was reserved for an advocate of Christian Science to go before a committee of the New York Legislature and say: "The infallibility of the physician is disproved by the reports from our Boards of Health, our well-filled cemeteries and the records of their absolute inability to heal and to ward off death in so many cases." And again he said: "Of late the profession has been asking too much. It has asked to close the dispensaries, so that the poor will be compelled to employ a regular physician."

The Christian Scientists think so much of the speech containing these bright specimens of argument, that they have it published in pamphlet form and offered for sale. Again it is urged that the people ought to be allowed to choose for themselves the kind of physician they wish to attend to them when sick. It certainly was never intended, nor could it possibly be accomplished, to prevent any one from choosing the kind of physician he or she cared for. But on the other hand, the law ought to prevent any one who chooses calling himself or herself a physician without the proper recognized qualifications.

"In Wisconsin the courts have held that a clairvoyant physician who holds himself out as a healer of diseases is bound to pos-

ness and exercise the knowledge and skill of a physician of good standing practising in the same district, and that it is not enough that he has only the knowledge and skill of a clairvoyant."

It is quite possible that assistance may come to the medical profession from sources quite unexpected. For instance, in Iowa a person suing for damages lost his case because he admitted that his injuries had been healed by a Christian Scientist. "The verdict was that injuries which Christian Scientists could heal must have been wholly imaginary, or so nearly so that their estimation in dollars and cents, or in cents alone, was impossible; so the seeker for damages was thrown out of court amid the derisive laughter of the interested spectators."

And it is also quite possible that the insurance companies may step in and refuse to pay insurance where death occurs in the hands of the Christian Science itself, unless, indeed, some opposition company started offering to pay even in case of death from Christian Science, as some of the companies do in case of death by suicide.

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## DIAGNOSIS OF HIP-DISEASE.

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The diagnosis of hip-disease is made rather from practice than theory, but it is important to have in mind the points to look for, and, equally important, the proper method of examination. All methods should lead to the same result—a true diagnosis—but they do not. They might, had every case all the characteristic symptoms of the disease, and no others. Unfortunately, many lack some usual signs or present others which tend to dim the clearness of the picture. A complete examination of the child—not merely the hip, is necessary; and a systematic method is of value to lead to a correct conclusion. The importance of a careful and thorough examination has often been forced upon me by my own mistakes or the mistakes of others, as the following two instances, briefly stated, will illustrate. A child was brought to the Hospital for Ruptured and Crippled with the history of having

been treated for nearly two years by a general practitioner for paralysis. As the mother expected us to know all about the case after simply removing the shoe and stocking of the affected leg, that, presumably, was the mode adopted by her previous medical adviser. And his diagnosis was easily made from the atrophy of the leg and the limp. A proper method of examination quickly revealed the hip-disease. Another case was sent to the same hospital for treatment for hip-disease after having paid a well-known pediatric specialist for his opinion. The child had a lumbar Pott's disease with psoas abscess and consequent flexion of the thigh and limp. The spine probably had not been examined.

The following method should always be employed: The child standing stripped, the attitude is noted, the position of the affected limb, the comparative prominence of the trochanter, and if the anterior spines are on a level. From the back, any prominence of a vertebra, lateral curve in the spine, or change in the normal anterior and posterior curves will be evident. Also look for any prominence or flattening in the gluteal region or deviation in the gluteal fold of one side. The gait and use of both limbs is then carefully watched, as the child walks back and forth. There may be present a limp, simply from shortening, or from flexion, a plunging or waddling limp from dislocation, or a limp from stiffness of the hip-joint. The history of the case, and subjective symptoms as well as the objective symptoms observed by the parents, may generally be obtained while the physical examination is being made. On stooping to pick an object from the floor, the amount of flexibility of the spine will be seen. The child is then laid on a hard table and the position of the affected limb again noted. Passive motion of the hip is made in all directions—grasping the upper part of the leg and knee. It is well as a matter of routine to test the sound side first. In this way, the confidence of the child is often gained and much time saved. If the patient is given pain at the start, it may frighten him sufficiently to prevent a satisfactory examination. On manipulation of the diseased limb, limitation of motion or muscular spasm will be elicited, the spasm usually being most apparent on rotating the flexed thigh. If there is no flexion, the lumbar spine should rest on the table, the limb being extended. Palpation for tenderness should be made over the hips. Flex, adduct, and rotate inwards the thigh, and feel for the head of the femur to ascertain if it is in its normal position. If there is a dislocation, on rotating, a rounded prominence will be felt above the trochanter. The next point to be

observed is the position of the trochanter in relation to Nelaton's line. Place the child on its side, with thigh slightly flexed, the trochanter normally touches the line drawn from the anterior superior spine of the ilium to the tuberosity of the ischium. With the buttocks on the edge of the table, and limbs hanging over, any limitation of hyperextension is seen. Placing the patient prone, the spine should show its normal curves. Lifting each leg will bring out any spasm of the psoas muscle or limitation of hyperextension; and lifting both legs by the feet will bring out spasm of muscles of the lumbar region, or stiffness of the lumbar spine.

The best method for a thorough examination being understood, the symptoms of hip-disease will be more easily appreciated. The important diagnostic points are:

1. Attitude of the limb in standing, walking, and lying.
2. Lameness—limp in gait.
3. Pain and night cries.
4. Stiffness of the joint, muscular spasm.
5. Atrophy.

If the case is seen early, it will be found that the symptoms have been coming on insidiously, although sometimes abruptly. The child has been noticed to limp at times, especially in the mornings, and after playing about, this wears off. There has been an apparent stiffness in the gait on first rising from bed or after sitting, but most of the day there has been nothing noticeable. This stiffness with limp becomes more frequent and lasts longer, until it is a constant symptom—being generally less towards night. On examining the patient stripped, there is a noticeable limp—the child is inclined to favor that leg. In standing, the knee of the affected side is flexed, and the limb slightly abducted and rotated outward. This is the means he unconsciously adopts to put the joint at rest. This attitude is quite characteristic. In walking, the child is inclined to step on the ball of the foot, thus keeping the ankle, knee, and hip flexed. The force of the shock is in this way partly expended on the flexed ankle and knee. In lying on the table, the knee will be raised, and the thigh rotated outward, and if there is much tenderness in the joint, the affected limb will be supported by the other, or the well foot presses down on the dorsum of the other, thus creating some extension, which is grateful to the patient.

Pain, in the early stage, is often absent; if present it may come on only at night, the spasmodic twitchings of the muscles

surrounding the hip causing the familiar night cries. These, of course, are present also in any joint-disease. They differ from the so-called night terrors in that the cry is indicative of a more extreme pain, and there is no fright or bad dream. The cry is sharp, the child then becomes half-conscious, and cries or moans softly. If there is pain during the day, it will in the great majority of cases be referred to the knee, perhaps being located as down the front and inner side of the thigh and of the knee. This location in the knee is probably best accounted for by the intimate anastomosis of the sciatic, obturator, and anterior crural nerves; occasionally, however, the pain may be referred to the hip or groin. A very young child will be apt to say his foot hurts him, as the whole leg to him is his foot. Some have attempted to diagnose the varieties of hip-disease by the location of the pain. Erichson believed that knee-pain indicated femoral coxalgia; joint-pain, arthritic coxalgia; and pain about the pelvis, acetabular coxalgia. Little weight, however, should be attached to this.

With the patient on the table, we look for the most important symptom of all—muscular-spasm, and joint-stiffness, with consequent limitation of motion in some or all directions. This is defined by Bradford and Lovett as “the presence of stiffness of the joint or limitation of its proper arc of motion, when the limb is passively manipulated.” Abduction is, as a rule, the earliest to be limited. A valuable sign, and generally present early, is a limitation of hyperextension; this naturally precedes the flexion which is found a little later. On rotating the flexed thigh, some muscular spasm will almost surely be found if disease is present. The voluntary holding of the thigh must not be mistaken for this involuntary spasm. It is almost necessary to test the sound limb first, the amount of voluntary and involuntary contraction of muscles, as well as the amount of departure from normal in the affected limb can be better appreciated. This symptom and the limp practically make the diagnosis clear.

Atrophy is always present late in the course of the disease—generally appearing early—and will be seen in the thigh-muscles and glutei, later in the calf. Too much stress is apt to be laid on this symptom. In all inflammation or irritation about the joint, even a contusion or sprain, atrophy may be present. It is partly the atrophy of disuse, but its early appearance, and the greater loss in the affected thigh than the other, although the child be in bed, shows it is considerably due to some nerve irritation. The difference in circumference of the two thighs will be

from a quarter to one inch, and in the calf, half the thigh difference. Contractility to the faradic current is diminished. As the disease progresses, all symptoms are more marked. The limp is decided and constant. This is caused by the stiffness of the joint, but may be partly due to bony shortening—the nerve irritation retarding the growth in the femur as well as causing a wasting in the muscles; or it may be from deformity, as flexion; or, later in the disease, from absorption of the head of the bone, or pushing up of the trochanter, the angle of the neck with the shaft approaching a right angle. The attitude of the child above described will be more pronounced, the abduction probably greater, although later there is a tendency to adduction, especially if the case is neglected and goes without treatment. It is important to have the patient get well with some abduction if there is to be much shortening, as this partly overcomes it, while adduction increases it. For it will be easily seen that when the thigh is fixed in adduction, that in order to bring it parallel with the other limb, necessary for walking, the hip will have to be raised, thus causing practical shortening. As the case progresses, the night cries become more frequent and may be repeated several times each night. The pain may be continually present in the knee, and the child protects the hip in every way. The muscular fixation of the joint is now decided, and attempts at manipulation may be extremely painful. However, there may never at any time be pain on motion. In the more acute cases there will be tenderness on pressure over the joint, and later, some infiltration and swelling about the hip. The adductor muscles near the symphysis pubis are prominent and contracted. The muscular spasm is always present in some degree, and is not only a *sine qua non* in the diagnosis, but shows, by its extent during treatment, the efficiency of the apparatus, the favorable condition or the extension of the disease, and frequently the approach of an abscess. In severe cases, we may also have a spasm of the erector spinæ muscle, thus causing a suspicion of the presence of caries of the spine.

There may now be present malposition, flexion, abduction, or adduction. Abduction is the commonest, as has been said, in the early stage, later flexion and adduction are usually present. This does not refer merely to the attitude assumed, but a fixed malposition not overcome by manipulation. In determining shortening and malposition, measurements are taken from the anterior spines of the ilium—the tape being pressed in the notch just below—to the internal malleoli. The difference gives the real or



actual shortening. The child should be placed exactly straight, the malleoli being equi-distant from a tape passing over the inter-clavicular notch, umbilicus, symphysis pubis, and passing downwards. Measurement is then taken from the umbilicus to each malleolus, the difference is the apparent shortening. If the apparent shortening is greater than the actual, the limb is adducted; if less, there is abduction. Another method of showing the amount of ab- or adduction is by moving the affected limb until the anterior spines are brought on a line at right angles to the long axis of the body. This position of the limb is its acquired position. If the lumbar spine is arched away from the table when the popliteal space rests on the table, flexion is present. The symptoms of hip-disease vary in prominence at different stages, and in different cases. Any of them may be absent except the limp and muscular fixation; the limp, however, early in the disease may not be noticeable at all times of the day. It must not be forgotten, too, that occasionally remissions are found in the early stage, with entire absence of all symptoms for a few weeks or a month or more. The tonic muscular spasm is present to some degree at all times, except possibly in such remission. The limitation will be felt toward the limit of flexion, extension, abduction, or adduction; and rotation of the thigh when flexed at right angles is a delicate test for muscular spasm.

There are a few conditions which may simulate hip-disease which it is well to mention. A simple contusion or sprain, resulting from a slight fall, frequently gives all the symptoms of true coxalgia. However, its duration will suggest its mild character, and observation and rest in bed will clear up the diagnosis. An acute synovitis as a result of injury and a synovitis of rheumatic origin, somewhat resemble those sudden and acute attacks of hip-disease we sometimes encounter. But, as a rule, there is more swelling and redness, and more tenderness of the skin over the joint, the pain is in the hip, and there are seldom present those muscular twitchings during sleep which cause the night cries. And with rheumatism, there is often a history of previous attacks, or other joints may soon become involved. The duration, too, of acute synovitis and rheumatism is comparatively brief. A chronic synovitis may give us all the symptoms of an early case of true bone disease, and may only be determined by a disappearance of limp and spasm too rapidly for hip-disease. A case of congenital dislocation of the hip has been mistaken for the disease, as there is a limp, shortening, atrophy, and sometimes pain on much walk-

ing. A careful examination, however, would leave no doubt. A rare condition described first by Muller in 1889, and later more fully by Dr. Whitman of New York is a bending of the neck of the femur or coxa vara. This is quite infrequent, but perhaps not as much so as is thought. It usually occurs in adolescent males about the age of fourteen or sixteen years, but may appear much earlier. The neck, becoming softened and bent, causes an elevation of the trochanter. There will usually be pain, but more often in the hip, and it comes only after walking, not while quiet. Some atrophy is usual, but not as marked, and there is seldom muscular spasm. The principal characteristics are limitation of abduction, elevation of the trochanter, and pain after much use. A Pott's disease with lumbar abscess frequently simulates hip-trouble. The abscess causes flexion of the thigh and consequent limp. Slight spasm also on manipulation is often found. At times it is necessary to watch a case before being able to rule out a coxalgia complicating the spinal disease. A case was brought to St. Mary's Hospital recently for an opinion. A physician had treated the child several months by a brace for the hip, when the disease was in the lumbar spine. The object of this paper has been to bring out the importance of a careful and thorough examination, and if this does not decide the diagnosis, observation for a while will do so.

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## THE HISTORY OF A CASE OF CUT THROAT.

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Read before the Brooklyn Surgical Society. January 5, 1899.

In August last, while serving as Major and Surgeon in the Volunteer service of the United States and stationed at Fort Adams, near Newport, R. I., the following case came under my professional care.

P. J. G., æt. thirty-five years, a private of Volunteers, was reported to have cut his throat and bleeding to death. I saw him a short while after the wound was inflicted. I found that the wound had been packed with a towel, and that the active hemorrhage was under control. He was taken to the post-hospital and

preparations were made for an immediate operation. A hypodermic injection of strychnia, morphia, and atropine was given preparatory to anesthetization by chloroform. Examination showed an incision at the level of the upper border of the thyroid cartilage slanting so that the throat muscles were severed at their insertion to the thyroid cartilage on the right side, but on the left side the entire ala of the thyroid cartilage was cut away. The hyoid bone was hanging almost free and the pharynx was severed through its anterior and lateral walls. The larynx was freed from all muscular attachments and was dragged downward by the lungs making respiration difficult. Branches of the jugular veins had been severed and the patient had lost a great deal of blood.

*Operation.*—Chloroform inhalation directly through the wound. Several small arteries were picked up and tied, and the jugular hemorrhage checked by suture-ligature. The great vessels and nerves just escaped injury. After checking all bleeding, the breathing was found so impeded by plugging of the glottis that a tracheotomy was performed and the chloroform given directly through the tube. The pharyngeal wound was closed as well as possible by catgut. The detached fragment of thyroid cartilage was removed and likewise part of the displaced and free hyoid bone.

A dozen heavy catgut sutures were passed through the thyroid and well back through the muscles above. These sutures were then tied firmly holding the larynx in place. The patient had evidently made two slashes at his throat, as shown by two lines of incision at the extremities of the skin wound and by the disarrangement of the structures of the neck.

The external wound was trimmed evenly and a silkworm-gut subcuticular suture inserted, a gauze-wicking drain being introduced at each extremity of the wound.

It was now found that the tracheal tube would not stay in place, the tube being of only medium size and the man having a powerfully developed neck with a deep-lying trachea. To remedy this a heavy silk quilting-suture was inserted into each lip of the tracheal incision and the trachea lifted upwards and secured by a tape around the neck. This made respiration free. It was necessary to elevate the foot of the table to facilitate the expulsion of clotted blood from the air-passages.

The operation lasted over two hours, the work being interrupted frequently by the difficulty of anesthetization.

The patient's pulse was very fair at the beginning of the opera-

tion, but gradually got weaker, and the medio-cephalic vein was opened and two quarts of warm saline solution infused. This brought the pulse up, and, except for a hypodermic injection of strychnine, no interference was necessary during the night.

At ten on the morning following the dressings were changed, as they were soiled, and fresh ones were applied. The external wound was in good condition, and the patient perfectly conscious. There was already commencing pulmonary edema.

The patient remained conscious until about noon, when the edema becoming worse, he gradually lapsed into unconsciousness and died at eight-thirty in the evening, about twenty-four hours after the injury.

This case is especially interesting in the great destruction of cervical structures and the escape of the great nerves and arteries of the neck. The entire separation of the larynx from its upper attachments and the almost complete severance of the pharynx were remarkable.

It is interesting to note in connection with this case, the experience of surgeons in injuries of this kind. Leaving aside those cases where the injury has involved the lateral or posterior regions of the neck, let us confine our attention here to incised wounds of the anterior region of the neck. As a rule these injuries are the result of suicidal or homicidal intent, but occasionally they are accidental. As to the anatomical structures involved, we find, of course, that the wound will involve different tissues as the line of incision is higher or lower in the neck.

In a series of 158 cases of cut throat, Mr. Durham found their location to vary as follows:

Through the thyro-hyoid membrane.....	45 cases
Into the trachea.....	41 cases
Through the thyroid cartilage.....	35 cases
Through the crico-thyroid membrane, or cricoid cartilage .....	26 cases
Above the hyoid bone.....	11 cases

The location is usually high in suicides who think that it is the opening of the air-passage which is fatal.

In the case here reported we find that its location corresponds with the usual location of self-inflicted wounds—*i. e.*, through the thyroid cartilage or the thyro-hyoid membrane. It is also interesting to note the fact that the man probably used his left hand drawing the knife from right to left, severing the tissues at a higher level on the right side than on the left.

This man was seen to make a second slash at his neck. This may be assumed also by the bifid extremities of the wound, though the folds of the neck may give rise to the same formation where but one cut is made. (Treves.)

It is rare that a self-inflicted injury extends as deeply as in this case. It is said that homicides are more likely to cut deeper than suicides. The reason that the great vessels and nerves of the neck so frequently escape injury has been accounted for by the tension of the sterno-mastoids when the head is thrown backward, and, also, I should think, as in this case, by the resistance offered to the passage of the knife through the firm, dense thyroid cartilage.

Agnew believes that the pain caused by the incision made by a would-be-suicide causes him to shrink and to realize the fearful nature of his action. Such persons rarely make a second attempt, he says, and the statements he has elicited from those who have made ineffectual attempts at self-destruction would confirm this belief. Where, however, the large vessels are cut, the patient, of course, expires rapidly from acute anemia, or, if smaller vessels are incised, from asphyxia due to the pouring of blood into the air-passages. The crico-thyroid and superior thyroid arteries are the vessels injured at this level. The superior thyroids required ligature in the case reported. Wounds of the neck when superficial are not so serious, but when they penetrate the air-passages or invade the pharynx, larynx, or esophagus, they are necessarily more serious. There is danger of hemorrhage, emphysema, asphyxia, the results of wound infection, broncho-pneumonia, or pulmonary edema, which latter is a most frequent cause of death in those cases not immediately fatal.

As to the treatment in these cases. It may be summed up as follows:

1. The control of hemorrhage.
2. The approximation of cut surfaces.
3. The after-care.

The first indication should be accomplished without much difficulty by accepted methods. The second indication should be accomplished as completely as possible by suture, avoiding, if possible, the mucous membrane when passing sutures approximating cut surfaces of air-passages. This, it is said, will avoid the irritation of these sensitive structures and the induction of cough which would interfere with the healing process. Provision for

drainage is said to be exceedingly necessary, as these cases are very liable to infection, causing pus infiltration, sinuses, etc.

In the after-treatment great attention must be paid to rest of the parts, the avoidance of tension by flexion of the head, the respiration of warm, moist air, nourishment through a tube, and the prevention of stricture of the esophagus, if involved, by the later use of bougies. As said before, suppuration is likely to occur, and the treatment of resulting fistulæ and granulations will be indicated.

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## PELVIC ABSCESS IN WOMEN.

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BY ALEXANDER RAE, M.D.

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Read before the Brooklyn Surgical Society, December 1, 1893.

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Including literally any collection of pus in any part of the pelvic cavity, the term pelvic abscess covers an extensive field. Because of their anatomical limitations, however, distinctive names have been given to many of these collections of pus in the female pelvis, and the terms pyosalpinx, ovarian abscess, tubo-ovarian abscess, etc., are used as more exactly defining the pathological condition.

This nomenclature limits considerably the clinical use of the term pelvic abscess: but, with accumulations of pus occurring in Douglas' cul-de-sac; in the cellular tissue anterior to the uterus; or more frequently adjacent to the uterus at the bases of the broad ligaments; between adherent coils of intestine at or just below the pelvic brim; around the apex of an appendix, projecting into the pelvic cavity, the field is still far from being narrow.

It is with these collections of pus in the pelvic cavity, outside of the Fallopian tubes and the ovaries, that this paper will deal.

Pelvic abscess is invariably the result of pelvic inflammation. Pelvic inflammation arises, almost without exception, from infection, specific or septic.

Suppuration in the pelvis, then as elsewhere, is due to infection by some pus-producing micro-organism.

The variety found, however, is limited. The organism most frequently found is the gonococcus: the streptococcus being present occasionally: the staphylococcus rarely: the colon bacillus

also, is capable of causing pelvic abscess, and the tubercle bacillus has been found in the walls of abscess cavities in the pelvis.

Starting from a common point, the cervix uteri, the micro-organisms or their products reach the pelvic cavity by one of two routes. Most frequently they find their way through the cervix to the body of the uterus, thence to one or both of the Fallopian tubes. Detained here by the prompt closing of the fimbriated extremity of the tube, in consequence of inflammatory reaction they may never get further. Occasionally owing to the virulence of the infecting medium, they reach the pelvic cavity quickly.

More often, however, after a longer or shorter time, an accumulation of serum, sero-pus, or pus containing micro-organisms, formed in the tube or tubes, finds its way into the pelvic cavity either by, leakage through the fimbriated extremity, in consequence of pressure in a distended tube or by the contained bacilli working their way through the tissues of the tube, or by fluid containing organisms being precipitated into the cavity in consequence of a ruptured cyst wall.

The other route is a more direct one; from cervix to endometrium, thence aided by the vessels and lymphatics of the uterus through its muscular wall to the cellular tissue around the uterus, or to the peritoneum or to both.

Because of the fact that in a large number of cases carefully investigated by competent observers, the seat of the infection was demonstrated to be in the tube or ovary, it seems to be clear that the former of these routes is the one by which, as a rule, the infection reaches the pelvic cavity.

The occurrence of infection by the direct route appears to be limited to cases following labor or abortion, where the conditions favor rapid absorption.

The gonococcus, with its predilection for mucous membranes, usually takes the longer route; the streptococcus may take the same route, or with its greater power for invading muscular tissue, the more direct one: setting up, successively a metritis, parametritis, phlegmon, and abscess.

Concerning the manifestation of the gonococcus, nothing need be said. Once present, with a continuous surface of membrane over which to spread, the anatomical relations easily account for its presence at the fimbriated extremity of the Fallopian tube, and thence into the pelvic cavity.

Recalling the fact that one-third of all women contracting gonorrhea sooner or later develop tubal disease, the very frequent

occurrence of pelvic inflammation and abscess is readily appreciated.

Prolific as is the gonococcus for mischief in the pelvis, the one other principal source of infection is a close rival. Puerperal septicemia as an etiological factor is equally prominent.

A labor carelessly managed, a miscarriage neglected, furnish many opportunities for infection. Either condition, attended with the most scrupulous regard for antisepsis, in the presence of pre-existing tubal disease, is fraught with danger. Add to these the possibility of infection from instruments not properly sterilized, and used about the uterus, and a wide field for the occurrence of streptococcus infection is before us.

Notwithstanding that recent authorities give such a prominent place to the gonococcus as an etiological factor in pelvic suppuration, it is significant to notice that in a bacteriological examination of pus from one hundred and sixteen cases of pyosalpinx, in seventy-two instances no bacteria of any kind were found; in thirty-two cases gonococci were demonstrated. In another series of forty-three cases of pyosalpinx, ovarian abscess, and pelvic abscess the cultures in thirty-three instances gave a negative result; the gonococcus being found in but seven instances. In still another series of twenty-five cases of pelvic abscess the cultures were negative in twelve cases; the gonococcus being present in four cases. This lack of confirmation by bacteriological methods does not shake the belief in the power of the gonococcus to work mischief in the female pelvis: the inability to discover the bacillus being attributed, in part, to defective methods of making cultures and to the fact that in many cases the micro-organism initiating the pathological condition may perish, leaving the pus sterile.

Apropos of these statements should be quoted the opinion of Joseph Price, recently set forth that, "as yet we have no very precise knowledge of the particular germ responsible for the destruction of the pelvic viscera of so many women.

We do know that if we could get rid of gonorrhea, pelvic suppurations would be rare. To say that neglected abortions or unscientific midwifery is responsible, is putting it too strong, and against facts and conditions of our every-day observation.

Again, Lasar of Berlin makes the statement, "that probably over 90 per cent. of the suppurative pelvic diseases of women and an equal proportion of cases of sterility are due to gonorrheal infection," and he states further that the infection comes in most



cases from the husband who has long been free from urethral discharge; after the last gleet discharge ceases, there are still a few germs lurking in the urethra sufficient to cause infection and in many cases give rise to untold misery."

The symptoms of pelvic abscess do not differ from those of abscess in other portions of the body.

The elevation of temperature and the changed character and frequency of the pulse, characteristic of suppuration, are always present. Pain, complained of, is referred to as a continuous heavy feeling or dragging sensation in the lower part of the abdomen; together with attacks of sharp lancinating pain radiating throughout the abdomen. Backache and pain caused by straining in the acts of defecation and urination are often present. The attitude of the patient, too, is characteristic. Stooping or bending slightly forward in an attempt to flex the body on the pelvis, and at the same time supporting the abdominal wall with both hands. The caution with which she moves about to avoid jarring the pelvis, is also characteristic.

The local signs are elicited by a vaginal, bimanual, or rectal examination. The vaginal examination reveals: a uterus fixed or having but a slight limit of motion; a vaginal vault dense and resisting as far as the finger can reach, giving a sense of extreme hardness. Or, instead, there may be a condition of edema or boggyiness evident to sight and touch. These conditions are characteristic of the existence of pus. Fluctuation may or may not be present. Absence of this sign, however, does not necessarily mean the absence of pus, a small quantity of which enclosed by a thick abscess-wall or surrounded by a considerable amount of infiltrated cellular tissue would fail to furnish this sign.

Both these sets of symptoms, general and local, vary with the character of the infection and the stage to which it has progressed. Without the latter, the former are not conclusive; when both are present the diagnosis is established. By means of rectal touch, a condition of fluctuation may sometimes be detected which vaginal examination failed to elicit. The examining hand on the abdomen will reveal little except in those cases of large pelvic abscess in which a mass of adherent intestine and omentum pushed up out of the pelvis can be detected.

If unrecognized, a pelvic abscess may evacuate itself, by rupturing into the abdominal cavity, the bladder, the rectum, or the vagina. Or the pus, dissecting its way beneath the lateral walls of

the pelvis, may appear on the abdominal wall above Poupart's ligament.

In many cases of pelvic abscess, if promptly recognized and properly treated, the chances for recovery are good.

In those forms caused by streptococcus or staphylococcus infection early recognition is of the first importance.

They run a rapid course, are apt to cause a general peritonitis, and prove quickly fatal. Always serious, unrecognized and unrelieved pelvic abscess is a constant menace to the life of the patient. Not all cases recover, even though early interference is afforded.

Once the presence of pus has been detected but one line of treatment offers hope for relief. The time for prophylactic or palliative treatment, so often efficacious in earlier stages of the inflammatory process has passed. With the symptoms of septicemia added to those accompanying the inflammatory process, life is threatened.

The only proper line of treatment is that of prompt surgical interference, extended in the manner best adapted to thoroughly empty and drain the abscess cavity. The most direct and feasible manner by which this can be accomplished is that of vaginal incision and drainage.

The steps of the operation are as follows: The vagina and cervix having been thoroughly cleansed, the patient is anesthetized, placed in the dorsal position, the perineum retracted by a speculum, the posterior lip of the cervix grasped by a tenaculum forceps and drawn forward. With a long-handled, sharp-pointed scissors, an incision is made through the vaginal wall on the posterior surface of the cervix at right angles to its axis. The incision is one and a half or two centimeters in length, and low down on the cervix.

In cases in which the abscess-wall is in contact with the vaginal wall, the whole bulging into the vagina, the incision admits directly into the abscess cavity. In other cases, where the abscess is more or less distant from the vaginal-wall, by dissecting with the closed end of the sharp-pointed scissors, keeping quite close to the uterus and a little to the right or left, as is indicated, the abscess cavity is reached. The finger is the best means for exploring the cavity. When it cannot be utilized a pair of closed uterine dressing-forceps carefully manipulated may be of service.

The abscess walls may be lightly curetted and the cavity irri-

gated. The cavity being lightly packed with iodoform-gauze and the vagina similarly treated, constitutes the dressing.

The after treatment consists in irrigating the cavity once in forty-eight hours and changing the packing.

In many cases the cavity contracts day by day until after two or three weeks it is obliterated. In other cases it will be necessary one or more times to dilate the opening and evacuate small collections of pus.

Appended are brief histories of two cases, recently under observation, which will serve to illustrate the occurrence and development of these cases.

*Case I.*—Mrs. C., age twenty-six years, married for second time six months previous, after being a widow eighteen months. She had lived with her first husband several years.

First called to patient March 8th. She was not confined to bed. Complained of headache, backache, anorexia, constipation; made no reference to abdominal or pelvic distress; temperature 99°, pulse normal. After a few days' treatment the symptoms were so much improved that patient was left to continue treatment and report.

Called to see her on the 24th. She had been confined to bed for several days, because of pain in lower part of abdomen; aggravated by standing or walking; temperature 101°; pulse slightly accelerated, full and strong. Abdominal examination revealed only increased distress on pressure in both inguinal regions. On vaginal examination found uterus movable and free from discharge; vaginal vault on right side presented a condition of resistance and boggiess, which led to a diagnosis of pus in the pelvic cavity. Patient advised to go to hospital for operation.

Admitted to private ward March 27th. Operation 28th. Patient anesthetized; dorsal position; perineum retracted by speculum; cervix drawn forward by tenaculum forceps; incision  $\frac{3}{8}$  inch in length on posterior surface of cervix, with long-handled, sharp-pointed scissors. Abscess cavity readily reached and about 250 c. c.m. of pus evacuated. Walls of abscess cavity lightly curetted, and cavity thoroughly irrigated and lightly packed with strip of iodoform-gauze. Loose packing of vagina with sterilized gauze completed the dressing.

After-treatment consisted in changing dressing and irrigating cavity every second day. Temperature went to normal two hours after operation and remained there for one week. At this point patient began to show signs of sepsis.

Patient anesthetized; opening enlarged; cavity explored; found to be very much smaller than at time of first operation.

One and a half or two ounces of pus evacuated; irrigation and dressing as before. An attack of localized peritonitis followed, lasting four days, after which temperature went to normal. From this time improvement was steady and rapid. Discharged seven weeks after entering hospital. Cured. Three months later was in good health, and had gained twenty pounds in weight.

*Case II.*—Mrs A., age thirty years, one child seven years old. No previous miscarriage. Had attended patient twice, once within a year for severe attacks of pelvic pain, which lasted a few days, after which she was in her usual health. Vaginal examination both times negative. October 12th—Called to patient and found a miscarriage in progress. 13th—Found tumor  $1\frac{1}{2}$  inches in diameter extruded from cervix, held in place by a few shreds of membrane. After carefully cleansing vagina with a solution of lysol, with an aseptic finger, the growth was easily detached and removed. It proved to be a molar pregnancy of three-months' duration; uterus fully contracted and cervix at internal os, closed.

15th—Temperature  $99.5^{\circ}$ , A.M. Ordered hot vaginal douches; learned that patient, assisted by her mother, had taken two the day before. 17th—Temperature, A.M.,  $99.5^{\circ}$ ; P.M.,  $101^{\circ}$ . Complaints of pain or tenderness over lower part of abdomen; examination revealed a condition of acute metritis; uterus quite firmly fixed, the cervix patulus readily admitting a glass tube  $\frac{1}{4}$  inch in diameter; vaginal vault not involved; no discharge from uterus; uterine douche, sterilized water, hot, daily till the 25th; no discharge from the uterus until the 23d, when a small quantity of reddish serum was found staining the dressing; there were no local indications of suppuration until the 26th, when an indurated area of small extent was found to the right of the uterus, low down. On the 29th, this area presented for the first time a slightly boggy or edematous feeling, clearly indicating the presence of pus. On the 30th patient anesthetized; in dorsal position; perineum retracted and cervix drawn forward; condition of metritis had materially subsided; uterus was lightly curetted with a negative result and irrigated; an incision about one and one-half centimeters long was made in the same position as in Case I. and  $\frac{3}{4}$  liiss of pus evacuated. Irrigation, dressing, and after-treatment as in Case I.

Patient went along for a week with a temperature reaching

normal in the morning and rising to  $99.5^{\circ}$  in the evening. Three or four days later it was necessary to dilate the opening and wash out a small quantity of pus, 5 i or ii, because of a sudden elevation of temperature to  $103^{\circ}$ . The patient suffered for a week with a severe localized peritonitis, which finally subsided, and she is now slowly recovering.

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## PROGRESS IN MEDICINE.

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### SURGERY.

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BY GEORGE RYERSON FOWLER, M.D., ASSISTED BY RUSSELL S.  
FOWLER, M.D.

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#### TREATMENT OF RECENT FRACTURE OF THE PATELLA.

Doebbelin (*Deutsche Zeitschrift für Chirurgie*, XLIX., 461) reports nine cases treated by König in the Berlin Charité during the past two years. The skin incision curves from one condyle of the femur to the other, and a skin-flap is reflected, exposing the fracture. Blood and fluid are removed from the joint cavity by sponges. No digital exploration, nor is irrigation permitted. Either two catgut or one silk and one catgut suture are employed to coapt the fragments. The drill-holes pass from the anterior surface obliquely downward and toward the median line to emerge on the fracture surface near its junction with the cartilage. The soft parts usually found interposed between the fragments are removed, the bony surfaces apposed, and the joint capsule sutured with plain catgut. The skin incision is left open either at the middle or at the angles of the wound. The leg is immobilized in extension and elevated. The first dressing is done from the tenth to the fourteenth day.

The histories and X-ray pictures of these nine cases vary but slightly. All these were simple fractures, 8 males, 1 female. In six there was complete and in three partial loss of extension. In six there was no rise of temperature, in three slight evening rise during the first few days following operation. Use of the limb was not begun before six weeks. In seven cases there was complete bony union; in one case the fragments were connected by a narrow bony bridge, but were not movable on each other; in one case fibrous union resulted, which did not stretch for one

year following operation, and finally showed signs of beginning ossification. Function was completely restored in every case.

DIAGNOSIS AND TREATMENT OF DIFFUSE SEPTIC PERITONITIS, FOLLOWING PERFORATING DUODENAL ULCER.

M. E. Schwartz (*Bull. et mémoire de la Soc. de chir. de Paris*, XXIV., 3) briefly reports four fatal cases of perforating duodenal ulcer, communicated to him by Rochard, Gumiard, Sieur, and Loison. The first of these authors treated the perforation by laparotomy, without result. In the discussion on diagnosis and treatment, Collin's investigations (conducted under Letulle's direction) are quoted. In 262 cases collected, the distance between the ulcer and the pylorus was less than 5 cm. in 242 cases—i. e., was in upper third of duodenum. In 85<sup>9</sup>/<sub>10</sub> per cent. there was a single ulcer; in 26 cases, two ulcers; in 3 cases three ulcers; in 4 cases five ulcers. The usual site is on the anterior duodenal wall. Duodenal ulcers are far more likely to perforate than ulcers of the stomach. Collin concludes that 69 per cent. perforate. In the majority of cases perforation took place directly into the peritoneal cavity; these did not present marked symptoms of disease previous to perforation. In only 5 cases out of 25 collected by Schwartz was any disease diagnosed previous to perforation; one as dyspepsia, two as gastric ulcer, and two as simple gastralgia. Pain is a constant symptom, is intense, and is located in half the cases below the right costal arch or in the epigastrium; rarely on the left side. Prostration is rapid. Temperature is usually low, rarely above 38°. The pulse is markedly accelerated. Vomiting is often absent at the onset, and may not appear for forty-eight hours. There is rapidly increasing rigidity of the abdominal muscles, which prevents palpation of the abdominal viscera. Percussion gives tympany in place of normal liver dullness. Intestinal obstruction is present. A correct diagnosis was made in a very small proportion of cases, obstruction or appendicitis being diagnosed. The incorrect diagnosis usually resulted in delayed operation. Only 3 out of 25 cases operated upon resulted in recovery, and in only one of the three was recovery permanent. One of these succumbed two months later to ileus, due to adhesions, and the other to a second duodenal perforation six months after operation. S. advocates early exploratory laparotomy and suture of the perforation. Frequently the greatest collection of pus in

diffuse septic peritonitis is in the right iliac fossa and below the liver. If indubitable evidence of disease of the appendix is not present a further search must be made for the site of perforation.

In the discussion of this subject Tuffier advises gastro-enterostomy before perforation has taken place in those cases in which a diagnosis can be established.

#### MODIFICATION OF HAHN'S METHOD OF RENAL FIXATION.

L. Sottocasa (Bergamo) (*Clinica chirurgica*, VI., 1898) describes a modification of Hahn's method of renal fixation. The steps are as follows:

1. Exposure of the kidney by means of Simon's longitudinal incision or Rose's "window incision"; splitting of the fatty capsule; crowding forward of the convex edge.

2. Incision, 2 cm. long, into the kidney, at the upper third of the exposed edge; formation of a muscular flap of same length and 1 cm. broad, from the quadratus lumborum, at the level of the kidney incision.

3. Suture of the muscular flap into the kidney by means of two fine silk sutures; also sutured to capsule of kidney.

4. Wound closed by layer sutures.

S. experimented in dogs. Dissection on fortieth day following operation showed kidney fixed in intended position, the muscular support being transformed into tough white connective tissue bands so incorporated into the kidney tissue that strong traction failed to effect a solution of continuity.

#### PROSTATIC HYPERTROPHY.

I. Albarran and N. Hallé (*Ann. des malad. des org. genito-urin.*, VIII., 1898) examined microscopically 86 cases of prostatic hypertrophy. They conclude: That the essential alterations in senile hypertrophy consist in increase of the glandular elements out of all proportion to increase of the fibromuscular stroma, the latter usually being unimportant and secondary. In a few cases alterations in the stroma prevail, and may induce complete disappearance of the glandular elements. In most cases the hypertrophied prostate presents all the characteristics of a large adenoma. In individual cases a latent transformation into a malignant epithelial new growth takes place, which finally gives rise to all the symptoms of carcinoma.

PROCEEDINGS OF SOCIETIES.

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BROOKLYN GYNECOLOGICAL SOCIETY.

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*Stated meeting, held March 3, 1899.*

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The President, W. H. Skene, M.D., in the Chair.

HEMATOMA OF BOTH OVARIES AND DISEASED APPENDIX—REMOVED  
BY ABDOMINAL SECTION.

Dr. L. Grant Baldwin: My reason for presenting these specimens is more for the purpose of raising the question as to the relative merit of the abdominal *versus* the vaginal method of operation in certain cases, than because of any special interest which pertains to them. They were removed last Monday from a young colored woman, married, and sterile, who gave the following history: During the past four years she has suffered more or less from dysmenorrhea and abdominal pain. One month ago she had an acute attack of what was said to be appendicitis. In a few weeks she recovered sufficiently to return to her work, but in a day or two was again seized with abdominal pain, and was obliged to take to her bed. She came under my care at this time, and I decided to open the abdomen. The larger growth is a hematoma of the right ovary, which was removed without rupture. The left ovary was also the seat of a hematoma, somewhat smaller than the other, and was ruptured during removal, with the result that there was quite free hemorrhage. The consistency of the contents of both tumors was peculiar, and felt like broken glass. The third specimen is the appendix, which shows signs of an old inflammation, and was very firmly bound down by adhesions—so much so that I was obliged to free it first at the colonic attachment and work down toward the tip. I do not think it would have been possible for any man to have removed that appendix through the vagina, and this brings up the question as to whether it is not better to operate by the suprapubic route in such cases. Personally, I believe that when anything is to be removed from the abdomen, it is best to employ the supravaginal incision, and I think that this case proves that I am right. The appendix had evidently been the seat of an inflammation, and was so embedded



in adhesions that its removal per vaginam was an impossibility, no matter how skilful the operator. It is possible that the tubes and ovaries could have been removed in that way, in which case the patient would have recovered from the operation, but would not have been relieved of her symptoms. This point cannot be too strongly emphasized. During the past year attention has been called to the frequency with which appendicitis is a complication of pelvic disease, and, for this reason, if for no other, it seems to me best to operate from above.

#### DISCUSSION.

Dr. William Maddren: I much prefer to see what I am doing when I operate, and, therefore, prefer the abdominal route. I also believe it to be impossible to remove an adherent appendix through a vaginal incision.

Dr. John O. Polak: I agree with Dr. Baldwin in regard to the abdominal incision being the better method in these cases. It has been my privilege lately to operate upon many cases in which the uterus, tubes, and ovaries were displaced and apparently enlarged, yet, upon opening the abdomen, practically nothing abnormal was found, save adhesions. These were severed and the abdomen closed, with the result that the symptoms were relieved.

In regard to appendicitis complicating pelvic disease, this is of such common occurrence that I believe we do the best thing for the patient by opening the abdomen from above. There is, of course, a class of cases in which one may work through the vagina with very satisfactory results, but I believe it is becoming more and more limited, as surgeons attain greater dexterity with both methods. The abdominal incision is the best procedure, for the reason that we are able to do conservative work upon the adnexa, with much more nicety from above than from below.

#### A CASE OF INSTRUMENTAL RUPTURE OF THE UTERUS.

Dr. John O. Polak: The subject of this report is a Polish woman, aged twenty-eight, married, whose first pregnancy occurred some nine months ago, within the right tube. Ectopic gestation was diagnosed before rupture and an abdominal section made at St. Catharine's Hospital, in the summer of '98. Menstruation has not recurred since the operation. The patient was

referred to the writer by Dr. Emerson. No satisfactory history could be obtained, owing to the patient's inability to speak English or German. An examination resulted in the following findings: An abdominal scar in the median line, showing evidences of previous suppuration; a hernial impulse could be made out near its lower angle. The vulva and vagina presented nothing abnormal. There was a purulent discharge coming from the uterus, which was increased by uterine manipulation. The uterus was in normal position, the fundus fixed, though the cul-de-sac and fornices seemed free of inflammatory products. What seemed to be a displaced left ovary was found just posterior and to the left of the fundus, and on following out the left cornu, a tube was felt, which seemed continuous, with a loop of the intestine. No adnexa were found on the right side. These findings were verified under anesthesia. Celiotomy advised. On January 21, 1899, under ether, the cervix was dilated preparatory to curetting; a Wylie instrument was used, and followed by a Goodell; the last-named instrument went through the uterus, causing a rent near the right cornu. This was promptly recognized on passing my curette into the organ. The curette was withdrawn and the uterus packed with iodoform-gauze. The pulse immediately ran up to 160, and became almost imperceptible. The patient had a distinct chill, which lasted for some ten minutes. The patient was then placed in the Trendelenburg posture, the abdomen opened, and a quart of hot saline solution poured into the peritoneal cavity. This improved her general condition. Intestines matted together by dense adhesions covered the uterus, which were freed with the greatest difficulty.

The gut was torn twice before the uterus could be raised into view. It was then seen that the tear, through the posterior aspect of the uterus, near the right cornu, was an inch and a quarter long. Five very heavy braided-silk ligatures were lying in the rent, evidently suppurating their way through the uterine wall. The end of my iodoform-gauze was protruding from the wound. Both ovaries and tubes were absent. The supposed ovary was nothing but a localized mass of exudate, and the supposed left tube turned out to be the sigmoid, adherent to and running out from the left cornu. The vesico-uterine space was obliterated by adhesions of the bladder and the parietal peritoneum. Hysterectomy was considered, and decided against, owing to the patient's condition. After removing the silk ligatures and trimming the ragged edges of the tear, which I had made in

the uterus, a strip of iodoform-gauze was sewn to the piece already in the uterus, and an assistant pulled it through into the vagina, When sufficient had been drawn through I packed the balance into the uterine cavity from above, and closed the uterine wound over it with interrupted sutures of catgut, burying these with a Lembert of the visceral peritoneum. The rent in the intestine had been closed in the meantime by an assistant. Another quart of hot saline solution was left in the belly, and the abdominal wound closed, with gauze drainage in its lower angle. Two strips of twist-gauze were used, one going to the cul-de-sac, the other to the uterine wound. The patient was kept in Clark's position for the first twenty-four hours and reacted nicely. The after-treatment consisted of strychnia, gr.  $\frac{1}{30}$ , every four hours, and an enema of one pint of hot saline every six hours. The recovery was uncomplicated, except for a stitch abscess. The temperature was normal in five days, and has remained so since.

The points of interest in the case are: (1) The character of the accident, which was undoubtedly due to a weakening of the uterine muscle consequent upon Nature's attempt to throw off the infected silk ligatures via the uterus. Finding them in the uterine structure indicates this. The purulent discharge from the cervix was from this process. (2) The manifestations of shock while under anesthesia. (3) The difficulties of intra-abdominal diagnosis, even under anesthesia, when peritonitis has been a forerunner.

#### DISCUSSION.

The President: I regret to be obliged to show my ignorance, but may I ask what "Clark's position" is?

Dr. Polak: It is the position advocated by Clark of Johns Hopkins Hospital, and consists of raising the foot of the bed some twenty inches, in order to favor diaphragmatic absorption of fluids. It is claimed by pathologists that the distribution of the lymphatics is such that fluids can be more readily absorbed by the diaphragmatic peritoneum than by that of the pelvis.

Dr. F. J. Shoop: In cases in which there is infectious material that should be drained away, what would be the effect if this position were employed?

Dr. Jewett: My recollection of Clark's paper is that he advocated the position for the very purpose of promoting absorption of septic material. I have used it to some extent, and, I believe, with advantage, raising the foot of the bed twenty inches.

Dr. A. J. C. Skene: Dr. Polak's case raises two very important points in which we are all interested. The first is the danger which attends dilatation of the cervix of a senile uterus or of a uterus which has undergone atrophic degenerative changes. I have had a large experience with these cases, and so far I have been able to avoid rupture of the uterus, because I have borne in mind the fact that, under certain conditions, the uterus will not dilate rapidly, and that efforts at dilatation are unsafe.

The second point is one which is of special interest, and that is the presence of the large number of old silk ligatures which remained from the first operation. The case can be added to the many others which show that silk ligatures are not absorbed, and generally give more or less trouble. Dr. Polak laid stress upon the fact that the ligatures were of heavy silk, but I do not think that the size of the silk has anything to do with its bad behavior. This material, no matter how prepared, will sooner or later cause trouble if left in the pelvic or abdominal cavity. In the case mentioned, I believe the ligatures were applied six months previously. I have seen cases in which such ligatures began to give trouble a year after they were used. The most advanced operators of the day have abandoned the use of silk, and employ in preference catgut or other animal ligature, as being much safer. Personally, I am satisfied that one cannot leave silk in the peritoneal cavity without risk, and I am very glad that Dr. Polak has called our attention to this subject.

Dr. Baldwin: I would like to ask Dr. Polak how he accounts for the severe shock which occurred after rupture of the uterus. He does not speak of any special loss of blood.

The question of ligatures has certainly been thoroughly covered. Hemorrhage should be controlled by catgut ligatures or by Dr. Skene's electric clamp.

In regard to Clark's position, I have read the article in which it was advocated, and the gist of it was that the position was to be used in septic cases, in order that the infectious material might be distributed over a large surface and thus more readily absorbed. I have made use of this position, combined with saline injections, and feel convinced that it has saved life in many instances. The position also possesses the further advantage in that when raw surfaces are left the gravitation of the abdominal content toward the diaphragm which results prevents the formation of adhesions between adjacent viscera.

Dr. A. J. C. Skene: The question in regard to shock which

has been raised by Dr. Baldwin may be answered by recalling the remark which has been attributed to Sir Astley Cooper, to the effect that there are some patients who could not be touched without killing them, and others who could not be killed if they were ever so roughly handled. There is no way in which we can account for the occurrence of shock in some patients and not in others. It is something which I have been trying to explain for a long time, and I am not much nearer finding out now than I was in the beginning; so, if Dr. Polak can answer Dr. Baldwin's question he will give us information of which we all stand in need.

In regard to the substitution of the new angiotribe for ligatures or the electric clamp, I would say that there is no new angiotribe. The instrument referred to is an old one, built on the plan of the *écraseur*, and I remember seeing it used in this city by the late Dr. Nott at St. Mary's Hospital, when that institution was in Clinton Street, which must have been twenty years ago. Such an instrument can never take the place of the electric hemostatic forceps. If it could, it would have saved me a great deal of trouble. It does not answer the purpose desired; it simply crushes the tissues and leaves them in the same condition as the old *écraseur* does, and the result is that if hemorrhage does not take place at the time there is great danger of secondary bleeding. Moreover, the crushed, pulpy tissue forms a stump which will decompose and give rise to sepsis, so I am confident that this instrument will never take the place of silk ligatures, catgut ligatures, or other means of controlling bleeding in abdominal or any other surgery.

Dr. Polak: In regard to Dr. Baldwin's question, I can only say that I never before saw a patient have a chill while under an anesthetic. In this case, however, the woman suddenly lost color, had a severe chill, and the pulse went up until it was imperceptible at the wrist. She was immediately thrown into Trendelenburg's posture, strychnia was injected, and she soon rallied.

As to the point raised by Dr. Skene, this was not really a senile uterus, nor was it markedly atrophied. The cervix was patulous, and there was a slight laceration, presumably instrumental, as the woman had never given birth to a child. I dilated with extreme care, Wylie's instrument being used first to ensure the entrance of the Goodell instrument, and the latter passed readily without much force being used.

In regard to Clark's position, I may have been misunderstood. I employ it with favorable results in cases in which I close up the

abdomen, and in cases in which the infectious material, in my judgment, is not sufficient for gauze- or tube-drainage, leaving a quart or gallon of saline solution in the belly. I do not employ it when I drain *per vaginam*.

#### DEATH FOLLOWING INTRA-UTERINE INJECTION OF GLYCERIN.

Dr. Charles Jewett: The following case, though probably not one of uncomplicated glycerin poisoning, is of interest in that connection:

The patient was a woman, about thirty years of age, and pregnant for the second time. She was so situated as to have access to medical journals, and evidently had familiarized herself with some of the modern obstetric methods. At about the second month of gestation she resolved to terminate the pregnancy by the intra-uterine injection of glycerin. The quantity of glycerin used is uncertain, but was said to have been but a few drams. This was introduced into the uterus by means of an English catheter, with a syringe attached. The ovum was expelled on the following day. Within twenty-four hours after the injection she was seized with moderate chills, and the temperature rose to 103° F.; for the next two days it ranged between 103° and 104° F. From the third day the temperature did not exceed 99°, and for the most of the time was subnormal. After the second day there were frequent vomiting and diarrhea. On the third the teeth were covered with sordes, the saliva was blood-stained, and a profuse hemorrhage occurred from the nose, which was controlled only by plugging. The vomitus consisted of coffee-ground material, and later the stools were tarry. The urine was, from the first, almost wholly suppressed, and was of a dark-red color from the presence of hemoglobin.

Physical examination on the fifth day, in consultation with her physician, Dr. J. E. Wade, revealed nothing abnormal in the pelvis. The liver and the spleen were slightly enlarged. There was no icterus.

The mind was clear till the last twenty-four hours, when a mild delirium ensued. Death occurred on the sixth day.

The dangers of Pelzer's method are well known, and they have led to its abandonment. Attention was first directed to them by Pfannenstiel (*Centralbl. f. Gyn.*, No. 4, 1894). An excellent article on the subject by Embden will be found in the *New York Medical Record* for July 28th of the same year. Luchsinger,

Schwan, Filehne, Lébédoff, and Wiener, cited by Embden, have shown that glycerin is liable to cause disintegration of the red blood-cells. The author refers, also, to the experiments of Afanassiew upon dogs and rabbits. In these animals glycerin injections caused glomerulo-nephritis and interstitial hepatitis. These effects did not appear to depend on the introduction of glycerin directly into the blood-channels, but were even more pronounced after injection into the subcutaneous cellular tissues than after intravenous injection.

The destructive action of the glycerin upon the red blood-corpuscles obviously cannot be prevented by any care that can be used in the intra-uterine injection. Affanassiew's experiments would seem to prove that the blood is more surely disorganized when the drug is absorbed through the decidua than if thrown into an open sinus.

#### DISCUSSION.

Dr. Dickinson: We all saw the result of excessive doses of glycerin when the Pelzer method of induction of labor was in vogue, and the symptoms were at times alarming. I recall the case of a robust young woman who presented the most severe surface congestion, dyspnea, and depression after an injection of glycerin. Her condition was such that I remained with her the greater part of the night.

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### THE BROOKLYN SURGICAL SOCIETY.

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*Regular meeting, January 5, 1899.*

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#### DOUBLE INGUINAL HERNIA.

Dr. W. S. Simmons presented a case with the following history: Two years ago the patient was referred to him with a double inguinal hernia, which had appeared the day after birth. On the left side the hernia did not descend into the scrotum, but only came down a short distance beyond the external inguinal ring. He was taken to St. John's Hospital a year ago last February and operated upon there.

On the right side the hernial sac was not continuous with the

tunica vaginalis, but was a distinctly separate sac, and was ligated and cut off, the conjoined tendon sutured to Poupart's ligament, and the cord was brought out of the upper angle of the wound; the divided aponeurosis of external oblique sutured beneath the cord, and the skin was closed.

On the left side the opening was made in the muscle at the opening of the internal ring, the forceps being introduced into the canal; the sac was then brought out of the opening, through the external oblique. It was twisted upon itself and sutured to the external oblique aponeurosis.

It is nearly two years since this was done, and he has had no recurrence, wears no truss, is in very good condition, and has had no trouble whatever.

#### REPORT OF CASE OF APPENDICITIS, WITH PELVIC ABSCESS.

Dr. W. S. Simmons presented a case of pelvic abscess following appendicitis. It is not particularly rare, and was presented for the purpose of bringing out the differential diagnostic points between abscess of appendicitis and that of salpingitis. The patient had had several children, and pain came on about fifteen days before she was first seen by the speaker. Pain was general in the abdomen. She complained of pain and tenderness well down in the inguinal region, about the region of the ovary. There was no fever, the pulse was not accelerated, there was no retraction of the right rectus muscle. On vaginal examination the tumor was easily felt on the right side; it seemed to be connected with the uterus, as moving the uterus would cause motion of the tumor. Several gentlemen of this city and myself saw the case, and it was the unanimous opinion that it was a case of salpingitis on the right side. She was taken to St. John's Hospital, and there Dr. Simmons opened the abdomen, finding the tube and ovary perfectly normal. The abscess was found, its walls being formed by the small intestines, several portions of which being agglutinated together, with the abscess cavity between them; it was in no place adherent to the parietal peritoneum.

The cavity was reached and washed out thoroughly with hot saline solution, and search was then made for the appendix. This was readily found, somewhat adherent, perforated, and the end had sloughed off, leaving a stump of about one-half inch in extent. That was removed, the stump cauterized, and the wound very thoroughly packed with iodoform-gauze. The woman had



quite a severe hemorrhage that night, superficial, probably, in character, as the packing was not discolored. The hemorrhage was stopped by the House-Surgeon, and two days afterward the patient suffered a great deal of pain, had a temperature of  $102^{\circ}$  F., was vomiting a brown material, and the vomiting kept up for two or three days. The temperature ran from  $102^{\circ}$  to  $103^{\circ}$  for about a week, and then subsided; the packing was removed from the abscess cavity on the sixth day, and the woman then made an uninterrupted recovery. The patient was presented.

REPORT OF CASE OF EXCISION OF THE GASSERIAN GANGLION, WITH  
PRESENTATION OF PATIENT.

Dr. L. S. Pilcher presented a patient, a woman, who came under his care three years ago, in consequence of an intractable neuralgia of the trifacial nerve on the right side. At that time she was subjected to excision of the second and third branches of the nerve through the zygomatic fossa by a method involving the removal of the zygoma, the raising up of the temporal muscle, and the reaching of these branches as they emerged through their respective foramina—the foramen rotundum and the foramen ovale. She remained perfectly free from pain for one year. At the end of the year, however, the old pains began to recur, being experienced more particularly on the side of the tongue and in the gum of the lower jaw on the right side. For a number of months these attacks seemed to be under the control of ordinary remedies; and during the following summer she was quite free from pain, but in the autumn the pain recurred with increasing force, and was intractable, so that by the incoming of December of '97 she was desirous of further operative interference for her release. The excision of the Gasserian ganglion was then proposed and submitted to. This last operation was done on the first of December, 1897. The method adopted for reaching the ganglion was the method known as that of Doyen, and involved a sickle-shaped incision, following pretty closely the lines of the temporal ridge and beginning from behind the ear, forward, in front of the zygoma, just behind the external angular process of the frontal bone, and then backward, along the zygoma, until near the point of articulation with the lower jaw, and then downward for three-fourths of an inch on the side of the face. This superficial incision made a flap, which, when reflected, exposed the zygomatic and temporal fossæ. The zygoma had already been, in

this case, divided, and was found to be fixed in its position by fibrous tissue, so that its second division was not difficult; it was then reflected down on the cheek with the masseter muscle; the already atrophied temporal muscle was removed from the temporal fossa; the lower portion of the temporal fossa was trephined through the greater wing of the sphenoid bone, and then the bone was gnawed away toward the base into the pterygoid fossa, until the foramen ovale was reached; here the stump of the third branch was identified, which was a guide for the further conduction of the operation. The bone, anteriorly, was also gnawed away until the canal of the foramen rotundum was likewise opened up and the stump of the second branch was likewise identified; then it was attempted to relieve the ganglion from the embracing folds of the dura; in the course of this a very profuse hemorrhage flooded the field. This was controlled by a tampon of iodoform-gauze, which was left in place for forty-eight hours. At the end of that time the tampon was removed, and the operation was continued without any further particular trouble from hemorrhage. The removal of the ganglion was apparently wholly accomplished. Most of it was brought away in one piece, with the roots of the second and third branches attached to it, that of the first branch being cut across in the course of the operative procedure.

The field of operation was very freely exposed—that is, the deeper parts were very freely exposed by this method of reaching them, as described, and in similar cases the speaker said that he should be encouraged to resort to the same method of procedure. Probably the opening of the cavernous sinus in the first attempt to disentangle the Gasserian ganglion gave rise to the hemorrhage, which, however, was without difficulty controlled, as has been seen.

There arose, however, as a result of the pressure of the tampon a complication which you will recognize when described in a moment, in connection with the further history of the case. The eyelids at the time of the operation were closed by suture, and for some days after the operation, the eye was protected from coming in contact with foreign matter by the closed lid. No infection in the wounds occurred, and rapid closure and uninterrupted healing of the operative wounds took place. When, however, at the end of a week, the sutures holding the lids were removed, she could not raise the eyelid; there was complete paralysis of the levator of the lid. As time passed, however, this became less and less marked, until at the end of the fourth month it had entirely

disappeared, and now there is hardly any trace, possibly a little more droop or stiffness to be seen at the outer angle of this right lid than upon the other. The conjunctiva of the right side is a little tender, so that she cannot expose the eye to the dust-laden air or cannot read much by artificial light without the conjunctiva becoming injected. It is absolutely insensitive to touch.

There is no restriction to the freedom with which the movements of the jaw take place; there is no stiffness in the articulation as the result of the operation or periarticular adhesion, and in that respect it is a very satisfactory condition.

Now, as regards the relief of the neuralgia: she has remained entirely free from her terrible pain from the time of the operation until the present; there are at times, however, sensations of a darting pain, which shoots through the right temple.

As regards ordinary sensation, Dr. Pilcher touched the face at several points with the corner of a card and found response only over the temple and the side of the nose.

#### DISCUSSION.

Dr. A. T. Bristow asked what advantage there is in the Doyen method over the Hartley-Krause method.

Dr. Pilcher replied that he had not done the latter operation on the living subject, but he had practised it on the cadaver. The access to the ganglion is much more direct and much more satisfactory, in his judgment, by the Doyen method than by the Hartley-Krause. There is none of that crowding up and pressing away of the cerebrum required, which is essential, in order to get underneath and get at the ganglion, in the Hartley-Krause operation.

Dr. Bristow asked the speaker if he believed that he got as much room.

Dr. Pilcher claimed that he got more room where he wanted it. There is not so large a trap-door cut in the side of the cranium in the Doyen as in the Hartley-Krause method, and for that reason, perhaps, it looks as if there was a greater degree of restraint in the ability to get access to the part, but at the point where the work is to be done the ability to manipulate is much less restrained than in the Hartley-Krause method. Then, again, he was of the opinion that the tendency to later repair is facilitated by the Doyen method in that there is a natural drainage to secretion,

while in the Hartley-Krause method there is a sort of cup into which the secretions are received, and over which they must fall in order to get out if they are to get out at all. The drainage is more direct, and he is inclined to think that there would be less danger of any unpleasant complication from the retention of secretion in the Doyen than in the Hartley-Krause. The danger from hemorrhage is probably about the same in the one case as in the other, although the greater degree of exposure of the parts should make the danger of manipulation less in the Doyen than in the Hartley-Krause. The inferior maxillary artery is tied in the early part of the operation, before boring into the skull; in the earlier stage of the manipulations it is cut and tied so that later trouble from the meningeal vessels is escaped. The trouble from hemorrhage in the laceration of the deeper sinuses, the cavernous or petrosal sinus, would be the same in either case, of course, because that takes place in the effort to disentangle and dislodge, and pull away the ganglion itself.

Dr. Bristow asked if the speaker supposed that the pain which the patient suffers now is due to disease of that portion of the nerve within the pons. The opinion was that that was probably the case.

Dr. Bristow inquired if it were not so, that Doyen, in one of his earlier operations, pulled away a considerable portion of the trunk in the proximal side of the ganglion.

Dr. Pilcher replied in the affirmative, but added that he did not. Probably in the present case there is a deep-seated condition which goes on developing, but she has now had a great deal of relief, extending over the period of three years, from the most intense sufferings, as the result of the operations which have been done.

#### REPORT OF CASE OF GOITER, WITH PRESENTATION OF PATIENT.

Dr. L. S. Pilcher presented a man, who came to him nearly a year ago, the first of February last, with a large goiter, both lobes being enlarged, the greater enlargement, however, being on the right side. At that time he removed the right lobe, and, dividing the isthmus, leaving the remaining lobe intact, with the hope that with the general change in the local nutritive conditions which would follow the removal of the lobe upon the other side it might shrink, or at least undergo no further growth. He made a rapid

recovery from this operation, and now it is difficult to find the traces of the operation upon the right side. After returning home, however, in the course of a year, the left lobe, which had been allowed to remain, continued to enlarge, and he returned a month ago with a growth upon the left side as large as the original tumor. He was again submitted to operation, and most of the remaining enlarged lobe was removed. After the mass had been enucleated and the vessels tied, with the exception of the vessels belonging to the inferior thyroid, the lower portion of the growth was grasped by two pedicle-clamps so as to control the hemorrhage, and then the upper three-quarters was cut away from it, and while the mass was still grasped by these pedicle-forceps it was sutured through and through with a series of strong catgut sutures, so as to control the vessels, which would be left open upon the removal of the clamps. Upon the removal of the clamps there was no hemorrhage whatever from the stump of the gland. There was, however, a quite free oozing from the many small vessels in the wall of the pharynx, which was exposed, so it was thought best to pack the wound for the time being with iodoform-gauze, while a counter opening was made at the outer and lower angle of the operative area, for the purpose of bringing out this packing and draining. During the first days after the operation there was a great deal of lymph-like oozing, which in great part was believed to be the thyroid secretion itself from the cut surface of the gland. Gradually, however, this has disappeared, and everything has contracted down; that portion of the gland which was strangulated by the series of sutures mentioned came away as a slough, and was removed at the end of three weeks. There is now simply left a small sinus at the point where the drain was brought out, from which a slight, serous, lymph-like oozing takes

#### DISCUSSION.

Dr. W. C. Wood wished to know what was the method of procedure in dividing the isthmus.

Dr. Pilcher said that his impression was that he passed a ligature-carrier through it, and divided it into two parts, applying two mass-ligatures on each side, and then cut between these.

#### REPORT OF CASE OF PHLEGMONOUS ERYSIPELAS, TREATED BY ANTI-STREPTOCOCCUS SERUM.

Dr. A. T. Bristow presented a patient, and made the following

report: He said that we are all of us embarrassed occasionally by those cases of poisoned hands which are the result of virulent infection, and too often, in spite of free incisions and most thorough drainage, infection travels up the tendons and seriously cripples the arm. This young man was injured in the *Journal* office, on the 11th of October last, the hand being drawn into the rollers which carry the papers. There were no bones broken, but the soft parts of the hand were badly squeezed, and there were two wounds in the wrist about the situation of the flexor-longus-pollicis tendon. It seemed best to evacuate the hematoma. He thoroughly scrubbed the wound with green soap and water, and put on a wet bichlorid dressing, yet a very virulent infection followed. The method of drainage, if the hand and arm are observed, did not lack thoroughness; the incisions were very free; notwithstanding the incisions and the prompt evacuation of pus, the constitutional symptoms were exceedingly severe. The temperature arose one night to  $106\frac{1}{2}^{\circ}$  F., so that not only was it doubtful whether amputation could be avoided, but life itself was menaced. From the extreme virulence of the infection the speaker inferred it was of streptococic origin, and determined to try Marmorek's serum, as he had several times before. These incisions were all made at the time and there was, consequently, very free drainage. Besides, the arm was kept in 1-1000 warm solution of bichlorid of mercury, the whole arm being immersed and the solution changed frequently and kept at a temperature of  $100^{\circ}$  F. The serum was ordered on the night on which his temperature rose to  $106\frac{1}{2}^{\circ}$ . Next morning he injected, at ten o'clock, 10 c. c., at two o'clock 10 c. c., and again at ten o'clock that night 10 c. c., and the next day the same, so that in forty-eight hours he had received 60 c. c. of Parke-Davis' anti-streptococcus serum. He found that the process of the case followed the course which he had observed in other cases, and that it followed the rules which Marmorek has laid down for the future history of these cases, namely, that after from eight to ten hours the temperature drops. Ten hours after the injection the temperature dropped to  $102^{\circ}$  from  $106\frac{1}{2}^{\circ}$ , and did not thereafter go above  $102^{\circ}$ .

The infection promptly stopped, and the reporter was enabled to save the tendons, as none of them sloughed. Drainage was continued for some time thereafter, and for fourteen days the arm was kept immersed in a saline solution, the object being simply to preserve the vitality of the tendons and prevent sloughing. Subsequently he skin-grafted a portion of the arm, and the pa-

tient is recovering the use of his hand. The speaker never wastes any time to get a culture, as the streptococcus is a slow grower, and while waiting for it to grow the infection is going on, so he takes it as sufficient evidence of streptococcus if the temperature runs high and the infection is virulent. There were no unfavorable symptoms from the serum; no erythema; no changes whatever. 60 c. c. is the largest dose which he has ever given. He gave it freely because it was perfectly evident that not only the usefulness of the arm was at stake, but the patient's life. The fingers are improving with respect to motion, so that he has at least three times as much motion now as when last seen. He will have a pretty useful hand, with the exception of the flexor brevis pollicis, which was destroyed. The flexor longus pollicis was not injured. The speaker expressed the hope that any one having processes such as this to deal with will use the serum. It has to be used early and has to be used freely.

#### REPORT OF CASE OF SUPRAPUBIC CYSTOTOMY FOR STONE.

Dr. Henry Wallace presented a vesical calculus, removed from a man seventy-four years of age, apparently in good general health, the only exception being during the past twelve years more or less bladder trouble. He did not consult a medical man until last summer. His symptoms consisted of increased frequency of urination, some pain at the neck of the bladder when sitting in certain positions. His urine showed evidences of marked cystitis. Examination showed an enlarged prostate gland, and he was advised to keep on with catheterization, and showed how to irrigate his bladder with a solution of salicylic acid in alcohol and water.

A few days later he came to the speaker's office and he tried to pass a Thompson searcher to see if there was anything further in the case, and failed. A few days after that he succeeded in passing a metal catheter, with a large, free curve, and discovered a large calculus on the right side of the bladder-wall, near the base. He was taken to St. John's Hospital, where Dr. Wallace performed a suprapubic cystotomy.

The stone was located, where he had expected to find it, on the right side of the bladder, near the base, not encysted, but merely adherent to the bladder-wall. It is rather large in size, but light in weight, and evidently of phosphatic consistency. He did well for five or six days, the local conditions clearing up nicely,

when his heart gave out. He had been a drinking man for a great number of years, and this was the cause of the fatal termination.

It is interesting to note the condition of the prostate gland, which was found enlarged, and, although the urethra was somewhat narrowed by the generally enlarged gland, it was principally due to the presence of a nipple or tit-like projection into its lumen. This was removed by twisting it off at the time of operation. The man's general condition was excellent for about a week. The cystitis cleared up, and he ran no temperature. On about the fifth day a No. 12 sound passed comfortably into the bladder. He died, however, on the sixth day from asthenia. The interesting points suggested are the possible presence of a stone in these cases of enlarged prostate, and, in the case described, the peculiar form of obstruction, and also the difficulty of passing the Thompson searcher. I hope to have made a searcher with a prostatic curve for the examination of cases of this kind. The symptoms did not point actually to stone, the increased frequency of urination was more marked at night than during the day, there was no blood in the urine, nor was the urine ever shut off during the act of urination. Many of these cases of stone are overlooked, and the operation of orchidectomy has been done when it was supposed that there was simply an enlarged prostate.

#### DISCUSSION.

Dr. J. B. Bogart observed that he would suggest a possible relation between the twisting off of the nipple of the prostate and the man's death. Dr. Pilcher had had a similar experience while he was acting as his assistant.

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#### BROOKLYN SOCIETY FOR NEUROLOGY.

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*Regular meeting, held February 23, 1899.*

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Dr. A. C. Brush, President, in the Chair.

The President reporting a case of hemiplegia one month following the receipt of an injury, remarked that hemiplegias following soon after the receipt of an injury were common, but how long we could say the accident was the causing lesion in these cases



was the question. Gowers records a case where it followed seventeen days after, and he himself had had a case in the Kings County Hospital of a man, forty years old, hurt while drunk, and a month after was suddenly taken with coma, right hemiplegia, and the other usual symptoms of an apoplexy. At the autopsy was found a simple non-depressed fracture near the sagittal suture and a hemorrhage from the middle-meningeal artery—no aneurism, disease of the vessels, nor other bodily lesion. Another case was a man, sixty-seven years old; thirteen days after being thrown out of a buggy by a trolley-car, suffered a right hemiplegia, with aphasia, followed by the usual course of contractions, et cetera, of these cases.

Dr. Browning said that he had collected quite a series of such cases, occurring from one to two weeks, ten days, and three weeks; the earliest being reported in "Hilton's Rest and Pain"; of hemiplegia following the receipt of an accident, and that they were generally due to a meningeal hemorrhage following the receipt of a fracture, with depression, disintegration, and rupture of the vessel; or the accident may cause the rupture of a small aneurism in the substance of the brain, with the attendant symptoms, and result in the formation of a cyst or focus of softening, causing the usual mental and physical symptoms commonly seen in old cases of hemiplegia, and unrelieved by trephining and exploration, as he had seen in a recent case which came to autopsy.

Dr. Coombs suggested that these cases might be due to a secondary hemorrhage into a clot, or even tertiary, as he had seen recently, in a case of a melancholic, who, attempting to commit suicide, cut his wrist; with great difficulty the hemorrhage was controlled, but recurred ten or twelve days after.

Dr. Browning, agreeing with the last speaker, remarked that there might be no external signs of an injury, yet a very small hemorrhage, a spot of softening, or disintegration, with slight or no symptoms at the time, to be followed after an interval by a larger hemorrhage at this point, with its well-marked attendant symptoms.

Dr. Browning next read a paper on "Position in Sleep," a principle in neurological therapy based solely on clinical data. In the first place, we knew the factor of the prone posture as a cause of dreams, and of its value in attacks of syncope, resuscitation, general conditions of weakness, in the course of the "rest-cure," and any condition of poor head circulation. He made three classifications of cases: first, those who slept with the head mediumly

high, resting only on a pillow and bolster, and which he took as the normal standard; second, those who slept with their heads high, using two or more pillows beside the bolster; they often gradually lowered the head during sleep, and were persons of active minds and circulations, excitable, maniacal, neurasthenics, sane epileptics, and in other conditions, such as valvular disease of the heart, asthma, dropsy, and such like. In the third class he placed those who slept with nothing under their heads, perfectly flat, or on their belly, or with arms over their heads; never dream; not active; and suffering on waking from headaches, waking numbness; feet may be on level with head or even higher; and is seen in persons of mental impairment, melancholics, hysterics, epileptics, and such like—then again we may see mixed forms, according to the varying condition of the person.

He did not offer this suggestion as explaining cerebral anemia or hyperanemia, which, perhaps, might be the reason for these conditions, but simply as an index of the underlying condition, habit, or family trait, and as a criteria for treatment, as, for instance, in the third, or head-low type, use stimulating treatment, not hypnotics, but good alcohol, valerian, and the like; whereas, in the head-high class of persons, the opposite sedatives and depressants, as the bromids, aconite, and the other hypnotics.

Dr. Coombes hoped the Doctor would have told us what is sleep, which he himself defined as repose or rest of all the mental faculties. He offered himself as an example of the third class, with head low, and lying on abdomen, and awaking without dreams or headache, but in excellent condition. At his sanitarium he investigated the condition of his mental patients, and found that the poor sleepers slept with their heads low and the good sleepers slept with their heads high, so that in this class of persons taking the pillows away presented no advantage.

Dr. Haynes called attention to the fact that as far as children was concerned, no classification of position in sleep would apply as they usually lie in all sorts of positions, all over the bed, and, as a matter of fact, with the head low or on a level with body, even in such painful and inflammatory conditions as injury, meningitis, and stimulating, circulatory disturbances, as during fevers and other exciting conditions.

Dr. Morton had hoped the Doctor would say something of the effect of position on sleep, for instance, in cases of neurasthenia, with cerebral congestion and insomnia, he usually gave the bromids and raised the head, whereas in anemic conditions of the

cerebral circulation he gave strychnia and lowered the head, with beneficial results in both class of cases.

Dr. Lloyd thought that in the majority of cases sedatives were the most used, as bromids and chloral.

Dr. Browning replied that the question was, how do persons sleep? Then look into their state or condition, classify them, and then use counteracting remedies. It was simply a clinical data to help us in our treatment of certain classes of cases, not a rule for the administration of sedatives, depressants, or stimulants, as some of our remedies were neither of these, our views differed on what were such, and in many cases our remedies have to be chosen on other grounds, especially in those of the first class that lay normal.

W. H. HAYNES, Secretary.

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*Regular Meeting, held March 30, 1899.*

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The *President*, Dr. A. C. Brush, in the Chair.

Dr. Brush read a paper on "The Nature of Paramyoclonus Multiplex." After reviewing the literature on the subject, and reporting three personal cases, he summed up the matter as follows: We have a condition in which the absence of heredity does not contradict it being of hysterical origin, whose etiology is that of hysteria, whose symptoms are those of hysteria, and in which there is nothing to prevent the present condition being considered as hysterical; and, further, if we are not to classify this condition as hysterical, we are driven to the assumption that we are dealing with a condition which is at one time hysteric and at others not.

Dr. Onuf reported a personal case, in a tired man, certainly not hysterical, after a severe mental strain and loss of sleep, in which there had been one or two series of contractions in different bundles of muscle-fibers, not groups of muscles, in the adductors of the thigh, with a strange feeling, not pain, but sense of powerlessness, lasting from a few minutes to a quarter of an hour.

He believed that Friedreichs described the condition as an involuntary contraction of muscles that are individually beyond our control.

Dr. L. J. Morton said these cases resembled chronic chorea and hysteria, and, treated as such, some got well and some did not. He mentioned the case of a man with a severe spasmodic condition of the trapezius and deltoid muscles, following a railroad

accident, without any direct injury, but following several weeks after, during which time the man felt badly and received much sympathy, getting worse all the time. He diagnosed a form of traumatic neurosis. New York consultant called it paramyoclonus multiplex; gave a favorable prognosis, and a treatment that did no good, for the condition remains the same to this day. It is accompanied by an intentional tremor, which is absent during sleep; no atrophy; good family history, and otherwise well. Atropia galvanism and conium improved the condition, but made no cure. Sometimes he thought it was a form of chronic chorea; sometimes hysteria, especially the latter. Now doesn't think so, but that it is something else; but what, doesn't know.

Dr. Brush said from Dr. Morton's description of the fright, size, and reaction, it was a case of functional trouble, not organic, and in the absence of head, spinal-cord, electrical, or trophic disturbances, it was, therefore, of a hysterical nature, and in all respects fulfilled the characters he thought necessary for a case of paramyoclonus multiplex.

W. H. HAYNES, Secretary.

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### HISTORICAL DEPARTMENT.

HAYDEN NICHOLS, M.D.

Doctor Hayden Nichols was born in the State of Connecticut, where he lived until he was about seventeen years of age, when his father moved to Brooklyn, and located at the corner of Lafayette and Bedford avenues, at that time "out in the country." He attended private schools until his ambition to go into business led him to follow the occupation of his father, that of hat manufacturer. As we follow his career we find him somewhat versatile with regard to attainments.

When he left his father's employment, he engaged with the firm of Segur, Platt & Nichols, hat jobbers, Maiden Lane, N. Y. City, where he remained several years. While with this firm he noticed that there was a demand for Spanish interpreters. He, at once, began to learn the language, and when he had mastered it he engaged with a fur house as their Spanish correspondent, which position he held until he formed a co-partnership with a Mr. White, under the name of Nichols & White, and went into the

hat-manufacturing business in New Jersey. Later we find him engaged in the stock-brokerage business in New York. He was successful for a time, but like many others thus engaged, he was caught by the market and failed. He then went to Ohio, where he studied medicine and practised for about ten years. Desirous of amplifying his knowledge of medicine he entered the Long Island College Hospital in 1881, and graduated in 1883. He then located in Baltic street, this city, where he remained until his death, which took place on the 4th of March, 1899, aged 68 years, leaving one son.

He came of a musical family, and was himself a musician of no mean ability. Having a fine tenor voice, he filled the position of tenor in the choir of various churches in this city and in his Ohio home.

His personality was a distinguishing feature of his character. With a fund of humor and wit, along with his whole-souled generous nature, he made friends who were steadfast and true. Only they who were intimately acquainted with him, knew his many qualities. Liberal, fair-minded, broad in his views, self-sacrificing; more considerate of others than of himself; indeed it was this trait of his character, that was largely responsible for his health breaking down, and confining him to his rooms for about two years, and ultimately, his death.

He served others when his health was such that it needed the care he gave so generously as much as those upon whom it was bestowed; therefore, it may be truly said of him: "Devoted to his profession, he gave his life for it."

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#### CONSULTING STAFF OF KINGS COUNTY HOSPITAL.

Dr. Timothy M. Ingraham was the forerunner and pioneer of that long line of distinguished physicians, who have generously given their best services to the county poor, as consultants to the County Hospital. Dr. Thos. Turner in his "Annual Report for 1857" says: "Dr. Ingraham, who has been Consulting Physician for ten years, has resigned, and Dr. Charles E. Isaacs has been appointed in his place." So thus Dr. Ingraham must first have been appointed in 1847. During these ten years he was the sole and only member of the Consulting Staff. It was his usual custom to drive to the Hospital about midday, after having seen his

private patients, when he dined, and—as a sort of *quid pro quod*—for his services he was also allowed to have his horse fed at the public crib.

After dinner he would go through the wards of the Hospital with the assistant physicians, and see only cases, regarding which, council or advice was wanted.

Dr. Ingraham was a very able physician, having had a large experience, both in private practice and in public institutions. He was a student of Dr. J. B. Zabriskie, and his assistant in the old Almshouse and Hospital. After this he filled the position of Physician to the old Insane Asylum, where he was succeeded by Dr. E. S. Blanchard, and later Visiting Physician to the Almshouse and Hospital, and finally Consulting Physician to the present Hospital. He resigned his position in 1857, and went to Europe for two years. On his return he opened an office in Brooklyn for a short time, when he was appointed Inspector to a military hospital in Baltimore. Owing to ill-health he was soon obliged to relinquish this position and return to Flatlands, seriously ill with an abscess of the liver, from which he ultimately recovered, and again began private practice in Flatlands.

Dr. Isaacs dying in 1860, Dr. Ingraham was again appointed Consulting Physician to the Hospital, and so continued for three years.

Dr. Charles E. Isaacs, who was Consulting Surgeon of the Hospital from 1857 to the time of his death, 1860, was a singularly modest man. He had been Demonstrator of Anatomy at the College of Physicians and Surgeons, N. Y., for some years, before he came to Brooklyn to reside, but his extreme modesty and self-abnegation had prevented him from securing a lucrative practice in the former city, but in Brooklyn he was fully appreciated, and was in the full tide of professional success, when his career was suddenly cut short by his untimely death.

As we have before remarked, Dr. Ingraham was again appointed Consultant at the death of Dr. Isaacs and so continued for three years, when he again resigned, and Drs. J. L. Zabriskie and H. L. Bartlett were appointed.

Dr. Zabriskie's connection with Kings County Hospital was long and continuous. He served as Assistant Physician under Dr. Turner in 1854, and continued connection with it either as Assistant or Consultant to the time of his death, but as an extended notice of Dr. Zabriskie appeared not long ago in these columns we must refer the reader to that article.

Dr. Bartlett entered the Hospital May, 1855, where he remained until the next summer, and in September, 1856, took the place of Drs. Dubois and Crane, at New Utrecht, where these physicians had just died of yellow fever, which had been raging along the Bay Ridge shore all summer.

In May, 1857, he returned to Flatbush, where he has since remained.

R. Cresson Stiles, A.M., M.D., was added to the Consulting Staff after his resignation as Resident Physician in 1866, and so continued till his death, which occurred in 1873.

In 1868, John A. Brady was made Consulting Physician, and in 1872 Dr. Tunis Schenck resigned as Resident Physician, and was added to the Consultant Staff, and in 1882, Drs. P. L. Schenck and J. S. Prout were made members of the same.

At the death of Dr. Stiles, 1873, Dr. Joseph C. Hutchinson was made Consulting Surgeon, and served with great credit to himself and advantage to the Hospital till the time of his death, 1887. Dr. Hutchinson was, and still remains, the Nestor among Brooklyn surgeons.

Like Mott of New York, he fills a unique niche in the temple of Esculapius, which it will be hard to rival. Probably because both were pioneers in surgery in the infancy of the city and grew and expanded with the city's growth. During Dr. Hutchinson's service, much more attention was given to operative surgery than had previously been done, and the number of cases seemed to increase.

During Dr. Hutchinson's service, his friend and neighbor, Isaac Henry Barber, M.D., often accompanied him to the Hospital, especially if there were any operations to be performed, and frequently assisted him, both personally and by wise counsel. So that when Dr. Hutchinson died, which he did, July, 1887 Dr. Barber naturally fell heir to his place on the Consulting Staff. He was a conscientious and painstaking surgeon, conservative in his operations, but fearless and ready to act in any emergency, when he felt that the good of the patient demanded prompt action.

He was highly respected by his confrères, and they all felt that they had met with a personal loss when he died, February 5, 1896, after nine years of faithful work. It was during his term of service that the reorganization of the Hospital Staff took place.

It had long been felt by those most familiar with the needs of the Hospital that a change was required in this direction. The Charities Department had become so dominated by political meth-

ods, that the internes were appointed without competitive or any other examination and sometimes even without the approval of the Resident Physician, and the result was that these positions were not unfrequently given to incompetent physicians simply because they or their friends had a political pull. . .

This matter was agitated in the County Medical Society and in the public press until a strong public and professional sentiment obliged the Commission of Charities to move in the matter, which they finally did in 1893. This change had often been suggested before, but action had been prevented by the statement that the eminent men in the profession were too busy to give the time to visit an institution so far from the city. As a matter of fact, however, it was found that there was a strong competition among the eminent men of the city for positions on the reorganized Staff and so *many* names were presented for choice, that the Commissioners were enabled to select a Hospital Staff equal to that of any public hospital in the country, and competitive examinations by the Consulting Staff, for the position of House Physician was inaugurated April 5, 1892, so that now the poor of Kings County are provided with the best medical service it is possible to procure. Some changes have been made in the personnel of the Visiting Staff since its first inauguration, which, however, we have not the data to exactly state, but the Staff, as published in the last printed "Report of the Commissioners of Charities," is the as follows the perusal of which will demonstrate the high character of those composing it.

#### KINGS COUNTY HOSPITAL STAFFS.

*Medical Superintendent:* Jesse T. Duryea, M.D.

*Assistant Medical Superintendent:* Burt. D. Harrington, M.D.

*Consulting Staff:* P. L. Schenck, M.D., T. Schenck, M.D., H. L. Bartlett, M.D., J. C. Shaw, M.D., W. H. Bates, M.D., J. D. Rushmore, M.D., J. A. McCorkle, M.D., J. S. Prout, M.D., Chas. Jewett, M.D., A. J. C. Skene, M.D.

*Visiting Staff:* J. B. Bogart, M.D., A. T. Bristow, M.D., G. R. Hall, M.D., P. Townsend, M.D., Wm. Browning, M.D., R. L. Dickinson, M.D., J. M. Winfield, M.D., S. J. McNamara, M.D., H. C. McLean, M.D., J. M. Van Cott, M.D., Wm. Maddren, M.D., F. E. West, M.D., H. R. Maine, M.D., J. Scott Wood, M.D., C. F. Barber, M.D., J. T. Duryea, M.D., H. H. Morton, M.D., G. McNaughton, M.D., D. F. Lucas, M.D., E. H. Wilson, M.D.



*Assisting Visiting Staff:* A. H. Bogart, M.D., A. S. Treadwell, M.D., F. J. Wood, M.D., Wm. Simmons, M.D., A. C. Brush, M.D., H. F. Jewett, M.D., H. E. Fraser, M.D., W. H. Skene, M.D., S. Gomez, M.D., B. O'Connor, M.D., Wm. Pool, M.D., J. R. Stivers, M.D., E. P. Hickok, M.D., R. H. Pomeroy, M.D., C. D. Napier, M.D., A. M. Judd, M.D., E. J. Smith, M.D., Arch. Murray, M.D., W. H. Seymour, M.D.

*House Staff:* C. R. Love, M.D., J. J. Wagner, M.D., D. L. Morrison, M.D., P. J. York, M.D., E. G. Zabriskie, M.D., F. S. Kellogg, M.D., H. H. Smith, M.D., L. Emerson, M.D., J. D. Richardson, M.D.

*Steward:* M. C. Anderson.

*Chief Apothecary:* T. D. Hughes.

*Superintendent of Training-school:* Martha A. O'Neill.

*Matron Pavilion:* Emily J. McNulty.

HOMER L. BARTLETT,

*Chairman Historical Committee.*

## MISCELLANEOUS.

### VAN COTT FELLOWSHIP.

Through Mr. Alvan R. Johnson, a prominent Brooklyn lawyer, an unknown individual has given the Hoagland Laboratory \$25,000 to endow a fellowship to be known as the "Van Cott Fellowship," in honor of Dr. Joshua M. Van Cott, the Director of Pathology. Dr. Van Cott has nominated Dr. Archibald Murray as the Fellow for the current year.

### LIBRARY NOTES.

It may interest the profession in Brooklyn to know that, although the bulk of our library is not at present available, yet in the matter of increase our collection is making the best of progress. This spring a large quantity of material has been received from the New York Academy of Medicine, and is now on storage with our other works. This is almost altogether new and largely in the foreign field where heretofore we have been so deficient. It is consequently a very useful contribution to us, and is fully appreciated.

Besides the above, it might be well to report that the Brooklyn Pathological Society, through Dr. Van Cott, has recently subscribed for *The Journal of Experimental Medicine* (Baltimore), *Virchow's Archives*, and the very practical *Charité-Annalen* (Berlin). And Dr. E. H. Wilson has agreed to contribute personally the *Journal of the Royal Microscopical Society*, the first ten volumes of which were received from the Dr. W. K. Brown library last year.

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#### ITEMS OF INTEREST.

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*Patent Medicines.*—Assistant Attorney-General Boyd defines patent medicines as follows:

“To draw the distinction more clearly between medicinal articles and preparations which I hold to be taxable under the provisions of the law and those that are not, I will call attention to a class of preparations or medicines, samples of which have been filed with me for examination, and which, in my opinion, are not taxable. They are articles which are put up in bottles, vials, or other packages, more particularly for the use of physicians and pharmacists. They are such articles as anti-streptococcic serum, anti-tetanic serum, anti-diphtheritic serum, and many others of like character. These articles are not put up in the manner or style of patent, trade-mark or proprietary medicines in general, nor are they advertised to the public upon the package or otherwise as specifics or remedies for particular diseases, or as claiming special merit, etc. The names upon the bottles, vials, or other packages containing these preparations are simply medicinal or pharmaceutical designations used to indicate the class of medicines to which they belong, and are for the guidance of physicians and pharmacists, and under their directions to be used by the consumer. I also include under this head such medicinal articles as pil. migraine comp., pil. neuralgic, compressed tablets, antimalarial and medicines of similar classes put up in quantities in bottles or other packages for the use of physicians, druggists, and pharmacists, through whom they are dealt out to consumers as prepared prescriptions. These articles have the technical medical name upon the bottle or other package and also the formula by which they are prepared.”

*Treatment of Anal Pruritus.*—Try first very warm lotions or irrigations two or three times a day; patient to avoid constipation and always to precede movement by irrigation of oil and to

anoint the anus with vaseline. Then try in succession named the following preparations:

Morning and evening a painting of the following glycerol: (a) Alum, 4 grams; calomel, 2 grams; glycerin, 20 grams. This pomade: (b) Calomel, 4 grams; vaselin, 30 grams. (c) Oleate of decocain,  $\frac{1}{20}$  part; lanolin, pure, 3 parts; vaselin, olive oil, aa, 2 parts. (d) Red oxid of mercury, 4 grams; vaselin, 30 grams. (e) Introduce into anal orifice a tampon of absorbent cotton soaked in a solution of oxid of zinc to 4 p. 30. (f) Cauterize the painful parts with a solution of agnoz,  $\frac{1}{10}$ . (g) In quite rebellious cases turn to linear scarifications or to cauterizations with the galvano-cautery.—MORAIN, *Journal de Médecine de Paris*.—(Ex.)

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### NEW BOOKS AND BOOK NOTICES.

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*All books received by the JOURNAL are deposited permanently in the Library of the Medical Society of the County of Kings.*

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TWENTIETH-CENTURY PRACTICE OF MEDICINE. Vol. XVII. Infectious Diseases and Malignant Neoplasms. William Wood & Co., New York.

In this volume "Diphtheria" is the first subject treated of. Dr. William H. Park of New York goes over the general pathology and bacteriology. He tells us of the production of diphtheria toxin, artificial and natural. He tells us of the Klebs-Loeffler bacillus and the Xerosis bacilli. He tells us again of the pseudodiphtheria bacilli, of the mixed infection in diphtheria, and of false diphtheria. He tells how the disease is transmitted. He goes into the question of susceptibility to and immunity against the disease. We are told much about the antitoxic serum and the unwary opponents of this well-tried therapeutic measure had better examine the mathematical basis on which it is founded. They will have no small task in meeting the basic facts, even if they presume thereafter to question the results now acknowledged to be the best of all. The pathological anatomy, diagnosis, bacteriological diagnosis, and necessary technique are lastly described. Dr. A. Jacobi follows, with a chapter on symptomatology and treatment, and closes with the statement that the antitoxin treatment has reduced the mortality one-half; that it has no secondary effects on heart, kidneys, or nerves.

The practitioner can ill afford to let these able demonstrations pass without study.

This volume invites the attention of the whole profession, for two reasons: first, the value of the information, and, secondly, the demonstration that laboratory work is exact work. It might justly be called the mathematics of medicine.

We again express one oft-repeated Godspeed for the "Twentieth-Century Practice."

**TREATMENT OF SKIN CANCERS.** By W. S. Gottheil, M.D., Professor of Dermatology at the New York School of Clinical Medicine, etc. International Journal of Surgery Co. Price, \$1.00. Pp. 67.

The author gives concisely an account of the cancerous process as it affects the skin; the modern theories of its nature, causation, and pathology. He dwells, however, especially upon its diagnosis and treatment.

**MATERIA MEDICA, PHARMACY, PHARMACOLOGY, AND THERAPEUTICS.** By W. Hale White, M.D. Fourth American edition, thoroughly revised. P. Blakiston's Son & Co., Philadelphia. Cloth, \$3.00.

A condensed work, remodelled according to the last edition of the "Pharmacopœia"; a quick reference-book; a *multum in parvo* after the fashion of the day, are the characteristics we would name.

The presence of a fine index and the absence of the ready-made formulæ are remarked with pleasure.

**A TEXT-BOOK OF MATERIA MEDICA, THERAPEUTICS, AND PHARMACOLOGY.** By George Frank Butler, Ph.G., M.D. Second edition, revised. Saunders, Philadelphia. Cloth, \$4.00.

We are greatly pleased with this book. It goes into the subject thoroughly. It tells us the story with the true scientific ring. It gives the necessary information about the nature and form of the remedies. It describes minutely their action. It treats of serum-therapy and the therapeutics of necleia; and then the untoward effects of drugs are taken up and the warning given to be on our guard for them. A copious clinical index and a general one are added, and complete a volume which will be a valuable addition to a department which has been in need of such work.

**SURGICAL NURSING.** By Bertha M. Voswinkel, Graduate of Episcopal Hospital, Philadelphia, etc. Second edition, revised and enlarged, with 112 illustrations. Pp. 206. Price, \$1.00. P. Blakiston's Sons & Co., Philadelphia, 1899.

A chapter on wounds and their complications has been added in this edition, and the nursing in special cases has been dealt with more in detail. The book is intended for nurses, and especially for those who have not had the opportunity of studying in large hospitals, and yet are liable to be called upon for all kinds of work. It is a very useful book for those for whom it was written.

THE *Medical News* POCKET FORMULARY. By E. Quin Thornton, M.D. Lea Brothers & Co.

To those desiring information, while they make their daily rounds, as to the use of drugs and their combination, this book may be welcome. There must be a call for such, or they would not continue to appear in the market. We are curious to know where and when they come into play. We picture to ourselves the user, behind door or in closet, rapidly turning the leaves for therapeutic inspiration. Again, the fond mother looms up, anxiously examining the pages, to discover whether baby has what the doctor says or is receiving the proper treatment. Again, the father appears on the scene, to dispute the maternal diagnosis or prescription; the grand *finale* of the whole matter, usually, being the summoning of the wearied doctor at the midnight hour, with a demand for a double fee. To theorize, therefore, benefit lurks within these pages, though tinged, at times, with bitterness.

MANUAL OF CLINICAL CHEMISTRY. By Elias H. Bartley, B.S., M.D., Ph.G., Professor of Chemistry and Toxicology in the Long Island College Hospital; Dean and Professor of Organic Chemistry in the Brooklyn College of Pharmacy. 33 illustrations. Pp. 146. Price, \$1.00. P. Blakiston's Son & Co., Philadelphia, 1899.

This manual consists of the last eighty-eight pages of Professor Bartley's well-known "Text-Book of Medical and Pharmaceutical Chemistry," together with "Notes on Urinary Diagnosis," a collection of well-selected experiments with carbohydrates, fats, proteids, and milk, and a scheme for the qualitative analysis of commercial prepared foods. It is an excellent book well adapted to medical students and to such physicians as desire to keep themselves abreast of the times in the subjects of which it treats.

HISTOLOGY, NORMAL AND MORBID. By Edward K. Dunham, M.D., Professor of General Pathology, Bacteriology, and Hygiene, in the University and Bellevue Hospital Medical College, New York. In one very handsome octavo volume of 448 pages, with 363 illustrations. Cloth, \$3.25, *net*. Lea Brothers & Co., Publishers, Philadelphia and New York.

The rather unusual feature of the work is the treatment, between the same covers, of both normal and pathological conditions. Part I., devoted to "Normal Histology," is very clear, and the illustrations unusually well selected and executed. Part II., "Histology of Morbid Processes," is less satisfactory, because of its briefness and curtailment, for lack of space. Part III., "Histological Technique," is excellent. The working formulæ best adapted to good work have been well chosen and clearly described. Altogether, the work is a valuable addition to our literature and an excellent laboratory guide.

E. H. WILSON.

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**HAYDEN NICHOLS, M.D.**







**T. ANDERSON WADE, M.D.**

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## ORIGINAL ARTICLES.

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### REPORT OF TWO CASES OF HEPATIC ABSCESS.

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BY EDWARD D. FERRIS, M.D.,  
Assistant Surgeon, Norwegian Hospital.

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Read before the Brooklyn Surgical Society, January 5, 1899.

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The early symptoms of abscess of the liver may resemble those of typhoid fever so closely that we will have to be very careful or we will be misled, and only arrive at a correct diagnosis after repeated examinations and observations of the case; but in the later stages when the abscess becomes more developed and the physical signs present themselves the diagnosis is easier.

The onset may resemble typhoid fever, headache, malaise, the temperature going up to 102° or 103° F., and remaining there for two or three weeks, then a gradual decline. There may also be present a diarrhea, which is typhoidal in character. In the case to be reported there were tenderness and gurgling in the right iliac fossa; also, distention of abdomen, with here and there a rose-colored spot which disappeared under slight pressure.

If the abscess points superiorly and approaches the surface of

the liver, adhesions may form between the superior surface of the liver and the inferior surface of the diaphragm. There will be severe pain on abdominal respiration and the patient fixes, as far as possible, his diaphragm and uses costal respiration.

But in those cases where the abscess points below the free border of the rib, the patient does not complain of so much pain and will often continue going about.

Perhaps it would be interesting to note a few statistics in regard to abscess of the liver as a sequela of typhoid fever.

Longenbuch states up to 1894 there are twenty cases reported. H. Schulz reports from the Leipziger Clinic, among 3686 cases of typhoid fever, one case of hepatic abscess.

He also observed in the Hamburg Common Hospital, 362 deaths from typhoid fever not one case of hepatic abscess.

In contrast to this, Dopfer found in 927 autopsies of patients dying of typhoid fever that 10 had hepatic abscess.

The following cases were treated in the Norwegian Hospital, in the service of Dr. Delatour, through whose courtesy I present them.

*Case I.*—N. B., aged 34, born in Norway, single, first officer of steamship. Was admitted to hospital May 24, 1898, in medical service. Father died of carcinoma of stomach, mother of dropsy. Had diseases of childhood, is moderately alcoholic, has no venereal history, has had occasional attacks of malaria during the past five years.

History of present attack: Has been in the cattle trade between Tampico, Mexico, and Cienfuegos, Cuba. Two weeks before admission first noticed headache, feelings of lassitude and weakness. Had no chills but thought he was getting another attack of malaria. He begun to have a severe diarrhea—from six to eight movements a day. Has lost in weight; headache and weakness became more marked.

Examination on admission: Well nourished, muscular man 5 feet 5 inches in height. Temperature, 102.5° F.; pulse, 98; respiration, 20; circulatory system, negative; respiratory system, a few moist râles heard over large bronchi on both sides behind. Abdomen distended, tender, and gurgling on pressure in right iliac fossa. Typical typhoid spots on both sides of abdomen and right side of chest.

Diarrhea typhoid in character. Urine, s. g. 1030, acid, no albumin, a few hyaline and granular casts. Diagnosis, typhoid fever.

The fever persisted for three weeks, the temperature gradually falling to normal. At the end of third week he began to complain of severe pain in side, which lasted for eight days, temperature varying from 100° to 101° F. June 27th, patient began to cough and complain of pain in his chest; also, had several attacks of hiccough. Chest was examined; left side, negative; right side above, moist râles; in large bronchi below, bronchovesicular breathing; voice increased and high in pitch.

June 30th: Temperature, 102° F. Movements of respiration limited on right side, pain marked, cough very distressing, expectoration slightly blood-tinged; slight dullness on right side below. Appears to be a little fulness in right hypochondrium.

July 7th: Temperature, 103.5° F. Patient's condition much worse; temperature begins to show variations of the septic type, going up to 103.5° F. in the evening and falling to 99° F. in the morning.

July 9th: Marked prominence of right side of chest; respiratory movements limited; percussion gave flatness up to fourth rib; loss of voice and breathing. Expectoration has a foul odor and of a greenish-brown color. July 10th: An aspirating needle was introduced between the sixth and seventh rib, in the mid-axillary line; when withdrawn it was filled with a dark-green purulent fluid. Patient was turned over to surgical service with a diagnosis of empyema. July 11th: Patient was operated on. The eighth rib was resected in mid-axillary line. On opening the pleura there was an escape of a large amount of straw-colored fluid. Passing the finger through the opening in the chest-wall the diaphragm could be felt pushed upward and beneath a large fluctuating tumor. This tumor was incised and there was an escape of about one-half pint of reddish-brown pus. The abscess cavity was found to be in the right lobe of liver; was irrigated and drained.

Patient's condition on leaving the table was very bad.

July 12th: Patient much troubled with dyspnea; stimulants and oxygen were freely given.

July 13th: Patient died.

*Autopsy.*—The liver was adherent to diaphragm, and in the superior surface of right lobe of liver was a large abscess cavity. There was gangrene of right lung. No cicatrices were found in lower part of ileum.

*Case II.*—H. L., age 35, born in Norway, sailor, was taken with dysentery while in Savannah, Ga. The dysentery lasted for

two weeks, when he began to have a pain in right side with fever; had no chills.

He presented himself at the hospital with a large, fluctuating tumor just below the free border of rib on right side. Temperature, 102° F. Diagnosis was made of abscess of liver. August 27th: Under anæsthesia the abscess was incised and about one quart of pus evacuated. The cavity was washed out with normal saline solution and drained. Convalescence was uninterrupted. October 18th: Patient was discharged well.

In the first case the etiology is obscure, while in the second case the probable cause was dysentery.

It will be interesting to observe that in Case I., where the abscess pointed superiorly and came in contact with the diaphragm the symptoms were more marked, and the patient was prostrated; while in Case II., where the abscess pointed on the anterior surface of the liver, the patient was going about trying to seek relief without operative procedure.

220 Fifty-third Street.

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## DANGER-SIGNALS OF THE PREECLAMPTIC STATE.

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BY CHARLES JEWETT, M.D., SC.D.

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Read before the Brooklyn Gynecological Society, March 3, 1899.

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Eclampsia occurs once in from 300 to 500 pregnancies. Statistics show that nearly one-third the mothers and one-half the children are lost. If the septic and other sequels of puerperal convulsions are taken into account the gravity of the accident is even greater. Not only is the liability to septic infection increased by the toxic condition, but post-partum hemorrhage, thrombotic affections, operative interference and injuries to the nervous system add to the loss of life and usefulness.

Yet eclampsia is conceded to be a preventable complication of pregnancy and labor. In the practice of obstetricians of special training childbed convulsions are unknown. The cause of their prevalence in general practice is not far to seek. Too little importance is attached to the supervision of the pregnant state by both physician and patient. The woman has little fear of the dan-

gers she knows not of, and the physician's duties during the period are too often neglected or conducted in a perfunctory manner.

Gestation is looked upon as a natural process which is to be left largely to its own course. Few patients if they are apparently well receive more than occasional passing attention during the entire period of pregnancy. The counsel so much needed, especially if the pregnancy be the first, is seldom imparted, no record is kept, no systematic examinations are made and urinary analyses are practised at long intervals, only in the later weeks, and are usually limited to testing for albumin. The first signs of the gathering storm are rarely brought to the notice of the physician and the opportunity for averting it is thus lost. It is for these reasons that I have ventured to bring this subject before you in the hope that the duties of the general practitioner in the preliminary care of the obstetric patient may be more clearly defined.

Assuming that eclampsia is the result essentially of a toxemia, that no serious poisoning can take place so long as the emunctory functions are properly performed and that the main avenue for the elimination of the poisons in question is the kidney, the first indication of danger must be sought in the urine. The other emunctory functions and the general condition must also be closely observed; but the more pronounced nervous phenomena of the preeclamptic state imply a degree of intoxication which in the vast majority of cases must have been preceded for several days or weeks by faulty urinary excretion. Proper observation of the urine, therefore, I repeat, should give ample warning of the approaching danger. Exceptions, it may be granted, are possible in instances in which from dietetic errors or other causes there is an abrupt and copious production of the toxic material but these must be rare.

As essential to the discussion of the subject in hand a few words may be permitted with reference to the causes of eclampsia. While our knowledge of the etiology of puerperal convulsions is as yet mainly speculative, the most satisfactory explanation, to my mind, is that which refers both the convulsions and the usually attending nephritis to a toxic substance or substances pre-existing in the blood. Thus, the kidney failure is not to be regarded as the primal source of the poisoning. It is a grave factor in the pathology, since it adds directly and indirectly to the toxemia and shuts off in greater or less measure the principal avenue of elimination. Of the character of the toxic material nothing

definite is known. Several poisons are doubtless concerned in the intoxication.

That the symptoms are not due to retention of the usual constituents of the urine is rendered probable by both clinical observation and by experiments upon animals. They differ essentially from those of simple anuria and they are unlike in kind and degree those induced by the injection of healthy urine into the tissues. On the other hand, that the intoxication may be in part or wholly the result of excessive production of poisonous material normally present in the blood cannot, in the present state of our knowledge, be absolutely denied.

Hughes and Carter, in an elaborate paper, based on an experimental study of uremia in general, express themselves as follows:

"It is probable that the origin of the poison is to be traced to the character of the food, and that its production takes place somewhere in the digestive system. For, the larger amount of poison is found in man, with his meat-ingestion and his complex and easily deranged digestion, next in dogs,, with their semi-carnivorous diet, and least in the horse, a pure herbivore. Clinically it has been well established that cases of Bright's disease improve when meats and kindred substances have been removed from the food and do best of all upon that simplest of diets, milk. Experimentally it has been shown that the urine of animals is rendered least toxic by a milk diet. These facts would all point in one direction—they refer us to the digestive tract for the origin of the poison."

The following from their table of conclusions are of interest in connection with the preeclamptic toxemia of pregnancy:

"1. It is probable that in addition to the pathogenic poison of uremia there are, under certain conditions, other, secondary ones active in its production.

"2. The poison producing uremia will also produce nephritis and a fatty degeneration of the retina. (This was proven by injections, into animals, of uremic blood-serum or of dropsical effusion). The poison is probably some albuminous substance.

"3. It is possible to have uremia without any previously existing lesion of the kidneys."

If you ask why this particular intoxication is more common in gravid than in non-gravid women, no satisfactory answer can at present be given. It is evident that the pregnancy has in some way a pronounced causative influence and the fact is emphasized by the speedy subsidence of the symptoms which almost invariably

follows the evacuation of the uterus. It is significant that the toxemia, in the absence of chronic kidney changes, is an occurrence of the later months of gestation. This has led to the suspicion that faults of foetal as well as maternal metabolism may be concerned in the etiology.

For the sake of brevity, only the more important urinary signs will be specially considered. Of greatest practical value are albuminuria, diminished urea excretion, and scant quantity of urine.

*Albuminuria.*—The precise value of the presence or absence of albumin in the urine as a prognostic in the pregnant woman is a question of special practical interest. Authorities are agreed that albuminuria exists before the first convulsion in from 84 to 91 per cent. of patients who become eclamptic. It is well known that the urine is albuminous in all cases of true puerperal eclampsia after the first or second convulsion. This particular signal of the approaching danger is an especially valuable one because of the facility with which it may be detected with a minimum expenditure of time, pains, and skill. Unfortunately too many physicians trust to it alone. This would not be so bad but for the fact that as a rule the examinations are made only at long intervals. If tests for albumin were repeated once or twice weekly during the last three months of pregnancy and at occasional intervals earlier there would be ample time in threatened eclampsia for the institution of preventive measures.

My own belief is that albumin is to be found in the urine even more frequently in the preeclamptic state than is indicated by the foregoing figures. In my private practice true eclampsia has never occurred after the persistent absence of albuminuria. That convulsions are frequently absent in the presence of albuminuria is a matter that does not concern us here.

To what extent the total absence of this sign is to be accepted as a favorable prognostic is a question that may perhaps be still more positively defined by further observations. Carefully recorded cases of eclampsia without preexisting albuminuria would be valuable contributions to our knowledge of this subject.

Hysterical, apopleptic, epileptic, and meningitic convulsions must, of course, be ruled out and brain tumors excluded.

We cannot lose sight of the fact that instances of eclampsia are sometimes reported in which no kidney change is found at autopsy. How long and to what extent albuminuria may have existed in cases in which no kidney lesions have been *discovered* after death is a question which I must leave to the pathologist.



I am not forgetful of the fact that albumin is often absent in chronic nephritis, but this is scarcely true in pregnancy in women that have convulsions. A true pregnancy nephritis with albuminuria sooner or later supervenes upon the chronic.

Nor can we forget that the unstable equilibrium of the nervous system, especially in the later months of gestation, is a prominent etiological factor in the eclamptic seizure. Yet that this alone is ever a competent cause of true eclampsia of childbed is improbable.

At the most the number of exceptions to the rule I have stated is small. If the urine is watched with due vigilance the continued absence of albumin is a fairly trustworthy reliance.

Herman alludes to the fact that the albumin in acute nephritis is mainly paraglobulin while in chronic nephritis it is chiefly serum albumin. The distinction has little importance for our purpose. It may have some relation to the treatment, since in the chronic form the pregnancy can seldom be safely trusted to go to term or even to the viable period. Yet the history and the microscopic findings would afford a better means of differentiating between acute and chronic lesions than the character of the albumin.

*Urea.*—Most physicians look to urea as the best clinical index of the excretory activity of the kidneys. It is a particularly valuable guide because of the precise methods at easy command for its determination. The practitioner may usually feel secure so long as the urea elimination is near the normal—four or five hundred grains per diem. Special vigilance is demanded when there is a marked falling off in the quantity. Davis found his patients were benefited by stimulation of the excretory functions when the percentage of urea did not exceed 1.5.

A word of warning should be uttered against too implicit reliance on urea determinations alone. To my knowledge abortions and premature labors have been unnecessarily induced through over-confidence in this particular clinical sign. It is not, alone, an absolutely reliable guide. The other urinary findings and the general condition of the patient must be considered. The urea is normally somewhat diminished in pregnancy and is subject to considerable variation within the limits of immunity depending on the quantity and character of food and other causes. Exceptionally, uremic manifestations, especially eclampsia, may be wholly absent in individuals whose urea-excretion has been greatly diminished for days and weeks. In a case recently under my care the urea during the ninth month ranged from 192 to 240 grains per day, rising to 296 grains a few days before labor. Yet the woman

was apparently in perfect health. Other similar cases could be cited from my histories.

But these are exceptional experiences. Notable diminution of urea should always excite suspicion and a marked falling off is usually of grave import. The weight to be attached to it must be determined in part by the other clinical signs.

*Quantity of Urine.*—A most important and too frequently neglected element in the prognosis as relates to the preeclamptic state is the daily quantity of urine. It is especially useful as a clinical guide since it is a matter which can be trusted largely to the patient's own observation. If every gravida were taught to measure the urine once or twice weekly during the later months of pregnancy and duly impressed with the necessity of keeping it at or above 3 pints per diem, convulsions in childbed would be almost unknown. Eclampsia, it is true, is said to be possible in a patient who is passing a good quantity of urine of normal specific gravity but such instances are among the curiosities of medical practice. They have not fallen under my observation in the obstetric patient. So long as the quantity can be kept a little above the usual health standard and of good density, immunity from grave toxemia is well nigh absolute.

I do not forget that the woman may have a chronic nephritis, in which the volume of urine is large, but eclampsia in such cases is infrequent unless an acute lesion supervenes upon the chronic. This class of cases can scarcely fail of recognition early in gestation and, as a rule, the pregnancy must be terminated. The importance of quantity as a signal relates especially to the average patient in whom there has been no preexisting nephritis. In practically all pregnancies a large quantity of urine, if it is well above the usual maximum, is a sufficient guarantee against convulsions or grave toxemia. Personal experience would lead me to believe that even in the presence of albuminuria and diminished urea excretion childbed eclampsia will not occur so long as the volume of urine can be maintained at about 70 ounces in 24 hours. If this is true it must be assumed that the quantity of toxic material which passes off in the urine is not measured by the percentage of urea elimination. Apparently an excessive flow of urine can generally be trusted to rid the tissues of the eclamptic poisons even though the urea be diminished. With the necessary precautions, close observation of the quantity of urine has a greater prognostic value than urea determinations.

In conclusion it should be urged that the obstetrician must de-

pend on no one of the foregoing data in the supervision of his patient. All must be watched in the safe conduct of pregnancy. The urine being normal in amount and character, true puerperal eclampsia need scarcely be feared. Departure from the normal in any of the foregoing particulars demands redoubled vigilance.

#### DISCUSSION.

Dr. R. L. Dickinson: The author's clearness of synopsis and epigrammatic statements leave nothing in the field uncovered and one would be accused of temerity if he presumed to discuss the paper. What I know of the subject I have learned from him and I have been taught a great deal from the cases which he has been kind enough to see with me in consultation, when he assisted me in carrying the patient on to term—watching her carefully and keeping the emunctories in working order during the remaining months of pregnancy—cases in which, if we followed certain teaching, labor would have been induced at once. It was he who emphasized the importance of the fact that pregnant women should pass large quantities of urine, and that, if the work of the kidneys was fairly up to normal and the patient was watched as to her diet, bowels, and skin action, we need not fear a crisis or outbreak. It is according to this teaching that we treat the large number of cases of threatened eclampsia which are seen at the Kings County Hospital, in which otherwise pregnancy would have to be interrupted. Upon going off duty three months ago I remember that four such cases were being watched in the hospital. Upon returning to duty a few days ago, I learned that all had been safely carried to term, although in each case there was a considerable degree of albuminuria. These patients were fed upon milk, their exercise was restricted, they were given a steam-bath once or twice a week, and their urine was carefully watched. This plan of treatment can easily be carried out in a hospital, where the patients live a regular life and have proper care, but it would not be possible in private practice among the very poor. I am sure that the rules laid down by the author will prove to be safeguards, and I feel that he has cleared up a subject which is often written about in a thoroughly confusing manner.

Dr. Maddren: I heartily agree with the views expressed in the paper. It would simply be a repetition to say that we should be more careful about urinalysis during pregnancy. I am in the habit of making frequent examinations of the urine, especially

during the latter months of pregnancy, and I believe that in this way we can carry patients through under the conditions referred to by the author. If any chronic disease of the kidneys exists, examination of the urine will show it and will put us on our guard against eclampsia and enable us to carry the patient on to term.

Dr. Polak: After hearing Dr. Jewett's most interesting paper there is very little to add. There are two or three points, perhaps, which might be more forcibly impressed upon the general practitioner, who seems to forget the important point brought out by the author, *viz.*, that eclampsia is a toxemia due to faulty action of all the emunctories and not of the kidneys alone. Two classes of symptoms are present, first, the early signs, the urinary symptoms mentioned in the paper, such as albuminuria, diminution of urine, and the presence in the urine of epithelial, granular, and, at times, if an acute nephritis develops, blood-casts. Deficient action of the bowels, to which Davis has called attention, may also be mentioned, as well as diminished skin action. Secondly, the nervous symptoms, such as headache, etc., which are due to the toxemia. I have seen many practitioners pass over both and wait for swelling of the feet and general anasarca to set in before they begin treatment.

The observations in regard to the urine, as to its quantity and specific gravity instead of paying so much attention to albuminuria, referred to by the author, have always been closely followed by me. There can be no doubt, however, that albuminuria is a causative factor in the production of eclampsia, nor does the fact that it has been absent in some few cases prove to the contrary.

In regard to keeping up the amount of urine, it is very difficult to make patients, especially women, drink enough water. In my experience the gynecological woman excretes too little urine, therefore we must educate our patients, as well as the general practitioner, as to what water will do. It is wonderful what changes follow the copious use of water both by mouth and by the bowel, and this is especially true in regard to the skin action. I have a case in mind, that of a woman five-months' pregnant, who presented all the symptoms of impending eclampsia, passing but twenty ounces of urine, the specific gravity of which was but 1004 and the urea below 100 grains, in twenty-four hours. This patient was safely carried to the end of term by being put to bed,

made to drink large quantities of water during the day, and having water injected into the bowel each night, beginning with a pint and gradually increasing the quantity until she was able to retain two quarts. Under this treatment 97 ounces of urine were passed daily.

Dr. A. J. C. Skene: I may refer to a class of cases in which there is a predisposition to renal disease during pregnancy. For a long time I have noticed that women with a given kind of an organization which may be described as chlorotic, are by far more liable than others to develop kidney complications during gestation. By "chlorosis" I mean a subject in whom the circulatory apparatus (the heart, arteries, and the pulmonary artery, especially) is undersized and the glandular system throughout to some extent defective; hence, the blood-making process is defective and the patients, as a rule, are anemic. In conjunction with this anatomical peculiarity, these women usually have small reproductive organs, by reason of arrested growth, and, while they perform their functions, they do it to some disadvantage and in an imperfect way. Such women are usually rather stout and, although anemic, have an appearance of health to the non-professional eye. They are predisposed to eclampsia from toxemia because they are at all times, whether pregnant or not, in a somewhat toxic condition. Disintegration and elimination are imperfect on account of imperfect aeration of the blood. It is said that these patients have small lungs as well; be that as it may, they are poorly supplied with well aerated blood, owing to the small size of the pulmonary artery. In a word, these women are the subjects of what used to be termed "excrementitious plethora," due to the fact that disintegration and elimination are imperfect, and, hence, they readily become toxic when the kidneys fail to do their work during gestation. In recent years I have been treating such patients in the hope of curing them. I think this can be done if they are seen early in life, especially at the time of puberty. At that time the constitutional defects can be largely overcome by diet, exercise, and general hygiene.

In regard to the prevention of threatened eclampsia, I consider that the excrementitious plethora, to which I have referred, plays such an important part that I put the patient upon rest and starvation diet. This differs from the rest-cure of Weir Mitchell, which consists of rest and forced feeding. I keep the patient in a condition of hunger, and in this way there is no accumulation of poorly digested material and consequently less to do in the way

of disintegration and elimination. It is my opinion that one of the reasons why pregnant women suffer from this plethora and the uric-acid diathesis is because they are overfed. I allow only a limited amount of exercise of body and mind, and in this way lessen the desire for food, order a low diet, and plenty of water. A great deal has been said about the kind of food a pregnant woman should eat in order to avoid kidney complications. It is my belief that the danger lies in the quantity of food taken.

To sum up, the chlorotic organization is predisposed to renal complications, and, finally, the superabundance of food which is craved and eaten during pregnancy is an immediate and direct cause of this kidney trouble.

Dr. Jewett, in closing: The object of the paper was to present the smallest possible group of urinary observations which can be safely trusted in the prophylaxis of eclampsia. The scope of the paper did not permit mentioning all that could be said even upon the subject. The three urinary items referred to are the most important and are sufficient in most if not in all cases.

In reply to Dr. Polak: It is, of course, understood that albuminuria is not necessarily a matter of serious pathological importance; its presence, however, should lead the physician to be on the lookout for other symptoms.

I am indebted to Dr. Dickinson and Dr. Polak for the very practical support they have given to the points I have tried to make. To Dr. Dickinson's question, how early and how often examinations of the urine should be made, it is difficult to lay down definite rules for all patients. The woman should be kept under close observation from the beginning of pregnancy. If she is intelligent, a good deal can be left to her charge, especially for the first six months. It is very necessary to impress upon the patient pregnant for the first time, the importance of reporting at once anything apparently wrong in her condition. Otherwise she may accept slight departure from health as a part of the natural course of pregnancy, and thus lose valuable time. As a general rule one urinary examination a month will suffice for the first six months. For the remaining period two, four, or eight or more examinations per month may be required according to circumstances. Much can be trusted to the mother who will watch the quantity carefully with occasional measurements in the later months.

Preeclamptic toxemia is rare in the first six months and in such cases there is generally a chronic background.

A profitable subject for a future discussion would be the etiological relation of the pregnant state to eclampsia, with special reference to auto-intoxication of both fetal and maternal origin.

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## FUNCTIONAL DERANGEMENTS OF OCULAR MUSCLES.

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BY EDWARD W. WRIGHT, M.D.

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Five of the six extrinsic muscles of each eye have a common origin at the apex of the orbit around the optic foramen. The four recti are attached to the front of the globe five to eight mm. from the corneal edge. Together they form in their course a cone, with the eye as a base, the apex of the orbit its apex.

Of these, the rectus internus is the strongest muscle and has the most direct course from origin to insertion, which gives it a decided mechanical advantage.

By the action of one or a combination of two or more of these six muscles, the eye can be placed in any position in its field of vision. Each muscle has two attachments, one, the chief or principal, the other, the substitute or accessory. The principal insertion is by its tendinous end to the sclerotic. The substitute or supplemental is formed by union of the muscle with Tenon's capsule. The accessory or substitute attachment prevents the retraction into the orbit of a muscle when severed from its attachment, as in strabismus operations, also permits the muscle to have some control in the movement of the eye.

Tenon's capsule is a delicate, well-defined membrane that separates the eyeball from the cushion of fat behind it. Near the corneal margin it blends with the conjunctiva. Behind it is attached to the optic nerve. When an eye is enucleated we sever the conjoined capsule and conjunctiva around the cornea and pass the instruments backward between the capsule and the globe, to reach the muscles and the nerve.

It has been commonly taught that the globe moves in this capsule, as the head of a bone in its socket, but now it is generally accepted for anatomical reasons that the capsule and globe move together over the cushion of fat.

As the muscles come forward from the apex of the orbit, they

reach the capsule but do not pierce it but invaginate this membrane, *i. e.*, the sheath of the muscle and the capsule blend together up to the attachment of the tendon to the sclerotic. So that when a muscle is severed from its insertion, the capsule, clinging to the eyeball, does not permit the muscle to retract into the orbit but keeps the muscle almost in apposition with its former position.

In fact, after the muscle is cut, the substitute attachment is sufficiently firm and strong to permit the severed muscle to move the eye. It is, therefore, very manifest that Tenon's capsule bears an important relationship to the muscles of the eye and that the capsule is of marked influence and importance in the treatment of functional derangements of ocular muscles.

There is yet another muscle. It is *within* the eye, a circular muscle called ciliary. It is the focussing muscle or muscle of accommodation. It is at rest when the eye views objects 20 ft. or more away. It is acting when the object is nearer than 20 ft. It performs its hardest work when we look at near or small objects.

So far we have only considered the muscles of one eye. With two eyes we have two circular, four oblique, and eight straight muscles—in all, fourteen. Of these we find the two recti interni parallel with each other—the other recti having diverging courses. The interni are the two strongest muscles. They have two duties, *one* to work in concert with the externi of opposite eye, another *to act* in concert with the other interni to produce convergence. In convergence it would appear that the greatest factor in the control of the position of the eyes is the two interni while the externi inferior and superior may be considered as assistants to steady the eyes.

These fourteen muscles are controlled by the fundamental law of **binocular vision**, which is that the macula of each eye must be **fixed** on the object observed. To secure such perfect binocular vision the imperative law demands prompt, delicately exact action of **every** individual muscle.

How intricate and complex must be the coördinating influences of the nerves and nerve-centers in order to control accurately **this binocular vision!**

In paralysis of an ocular muscle the law of binocular vision is broken. In strabismus the law is not observed. In paralysis binocular vision is an impossibility. In strabismus binocular vision is not desired—it is ignored—but the vast majority of eyes have the two eyes working in concert. They maintain an observance of this law, though their faithfulness and integrity to the



law may result in headache, eye-pain, or other forms of asthenopia. Eyes with functionally deranged muscles continuing to observe this law soon suffer from asthenopia.

*Symptoms.*—The symptoms of asthenopia vary according to the degree of functional derangements of muscles and the susceptibility of the patient.

The derangement or anomalies of ocular muscles may be manifest by one or more of the symptoms which I will hurriedly and partially enumerate.

Pain in or behind the eyes.

Congestion of conjunctiva, photophobia, free lachrimation.

Indistinctness of print and writing.

Inability to use the eyes with comfort.

Feeling as though the eyes were "crossed" or turning.

Feeling of pulling or hauling or jerking or twitching.

Severe fatigue after use of eyes.

Drowsiness during use of eyes.

Headache, varying from a slight attack to a persistent migraine, recurring at irregular intervals with varying intensity and duration.

Vertigo on viewing moving objects while riding in carriage or cars, etc.

Sleeplessness after use of eyes.

Nausea, indigestion.

Nervous system influenced in its functions.

It would be of some interest to trace the relationship between each symptom and its cause—but one statement only. If neurasthenia be considered, that condition where the expenditure of nerve-energy is greater than the income, the expense of nerve-force in the improper coördination of the ocular group of muscles must be an important factor.

The want of harmony in action of the ocular muscles is not the only factor in the cases presenting one or more of these symptoms but it is frequently a very persistent and important influence.

When the equilibrium of the muscles is obtained and maintained and the muscles perform their duties freely and easily, we find these symptoms disappear and the general condition of the patient improves.

*Diagnosis.*—By prisms, maddox-rod, phorometer, and other instruments we determine the relationship between the different muscles, ascertain those that are acting insufficiently and those that

are over-acting, determine the want of balance and the relation between accommodation and conveyance.

To describe each method and the estimated value of each test would take too much time.

*Treatment.*—The essential starting-point in the treatment is the correction of every error of refraction, because the ciliary muscle is the regulator or governor of the other muscles.

The associated action of the accommodation and conveyance is very intimate and constant, *i.e.*, when the two ciliary muscles act, the two recti interni act, one pair to accommodate, one pair to converge, and the convergence bears an exact ratio to the accommodation. How important to have the two ciliaries act normally! To have the ciliaries act normally, the refraction must be brought as near normal or emmetropic eyes as possible. The hypermetrope, the myope, the astigmat must have their proper glasses. These glasses are to be worn constantly that the ciliary muscles may *always* act normally and thus regulate the convergence to a normal action. In the great majority of refraction cases, it may not be necessary to use a mydriatic to secure the proper lenses, but to be thorough it is imperative in cases with muscular anomalies to use atropin or homatropin.

Then, with ophthalmometer, refractometer, and test-lenses ascertain the optical defects of the eye, but, to my mind, the best method is retinoscopy or more familiarly known as shadow-test, for then we leave the refraction of each eye as though it were an optical instrument. With all this data we decide the glass to be worn constantly by the patient.

Second, to train the muscles. The object is not so much to increase the power of the weak muscles or to diminish the over-action of strong muscles as it is to have the muscles act in a proper manner or, in other words, that the coördinating nerve power may cause each muscle to act exactly properly with the other muscles to form a perfect and painless adjustment.

For example: The hoarseness, fatigue, and other troubles of public speakers and singers are very often due to a faulty voice-production. The muscles of throat and chest are used in a wrong method. When the singer or speaker has been taught the proper way to use the muscles employed in voice-production, their troubles and complaints disappear. So, in the ocular group, it is judicious and advantageous to train the ocular group of muscles to act in unison, the ciliary muscle being the key-note.

To train the muscles to act in harmony we adopt various

methods of ocular calisthenics and gymnastics, the best of which causes the patient to approach to and recede from a candle or other object. With prisms, bases out, in frames before each eye, the patient approaches a candle twenty feet away until fifteen or eighteen inches from it and then walks backward to starting-point. By this method we ask the convergence and accommodation to act at all points from far and near.

In like manner we may exercise and train the muscles governing divergence, elevation, and depression of the eyes.

For training the muscles for greater strength or more harmonious action for near, use a dot or cross on a paper twelve or fourteen inches away. Beginning with weak prisms gradually increase the strength of prisms until the patient sees two dots or two crosses.

By these methods or others we stimulate the coördination of nerve-forces to act in the proper channels and thus educate the muscles to work harmoniously and be thereby enabled to perform the greatest work at the least cost.

*Wearing of Prisms.*—A prism combined with the glasses and worn constantly is frequently an aid to a harmonious restoration of muscular anomalies. When we have a pair of muscles that are overacting and its antagonists acting normally, we may coax, by a prism, worn constantly, the overacting muscles to give up their extra exertion and act normally.

When a pair of muscles or an individual muscle is not able to perform its full duties assistance is given by wearing a prism base over the weak muscle.

The prism should not be considered a permanent lens but only worn until such times as it can be dispensed with. If prisms are worn for a long time the muscles soon rely on the prism as a rest or crutch, and stronger prisms are demanded. Our aim should be by the other methods to so strengthen and regulate the muscles that the prism can be removed.

*Résumé.*—The vast majority of patients find relief from their complaints by the constant wearing of their glasses as well as an equilibrium among the muscles.

But there are others who have faithfully followed the prescribed course of muscle-training and followed the directions on all lines, who have not yet found complete relief from their troubles. Then it is necessary to do something more.

For the essential solution of the problem is not so much that we obtain a condition where our tests show that an equilibrium

of the ocular muscles is secured as that the eyes may perform the duties demanded of them free from pain, headache, vertigo, or other distressing conditions. Our tests, you recognize, are but momentary. The eye-muscles may show a good trial balance and each pair show good power, but the real test comes when the eyes are used for an hour, a day, and a month free from trouble of any nature. This is the goal—the desideratum to be obtained.

So far we observe that, in the main, oculists are agreed, but when the further treatment deals with operation, we find them divided into three classes:

1. Those who do no operation.
2. Those who do a partial or graduated tenotomy.
3. Those who do a complete tenotomy.

Those who do no operation believe and teach that if the refractive errors are corrected by proper glasses there will be no unbalance, no want of harmony in the ocular group of muscles, and, consequently, that the eye pains, the eye strain, the headache, and so forth are not due to the fault or defects of the extrinsic muscles.

The opinion has been expressed strongly in this paper that the great majority of patients suffering from the subjective symptoms previously mentioned are cured by wearing their properly selected lenses, but there remains a number who are not so relieved even after a long time and are cured by an operation. The number is probably not less than 3 in 500 patients under 45 years and surely never over 3 in any hundred.

Those who do a graduated or partial tenotomy:

Graduated or partial tenotomy is the severance of some of the **fibers** of the muscle. Those fibers are generally in the middle **third** of the muscle attachment. The object is to cut a definite **number**, which will enable a proper adjustment of the muscle to **form** with the others a proper balance. By this means it is claimed that a proper equilibrium of muscles can be secured and relief from the symptoms.

It does not seem that the severance of a number of fibers can **influence** permanently the action of the muscle. When these few **fibers** are cut, we may suppose that there is a slight retraction of the **central** part of the muscle but truly it must be considered very **minute**, and it is so considered, for the incision is called and illustrated as a button-hole. The result on the muscle action must be **transient** at best. In a few days the button-hole will be filled with **fibrous** or scar-tissue. What would be the effect of a button-hole, **subcutaneously** made, in sternomastoid or biceps three weeks

later? As each muscle lies in front of the equator and resting on the globe, it will form a new attachment and this new attachment will be as broad and as firm, if not broader and firmer, than before. Consequently no permanent change is made in the muscle or at its insertion.

If the teachings are properly interpreted it would seem that usually the operation is performed early—in fact, so early that no time is given for the effect of the prescribed glasses on the intimate relationship always existing between convergence and accommodation—in fact, not sufficient time for the accommodation itself to be adjusted to the new glasses.

Then, if the operation is performed early and its effect not lasting, it necessitates another operation until we read of many operations on the same muscle.

Moreover, it is published that if then the balance is not secured, the muscle is severed until it is only held by Tenon's capsule, *i.e.*, a complete tenotomy is performed.

The safe and charitable inference is that it would be better to wait until the effects of the glasses and other methods had had time to properly aid in the adjustment before experimenting on the number of fibers to be cut.

The muscle adjustment of the ocular group for good work with the eyes is not so fine. It is not like a chemist's scale that weighs in milligrams. It is an over-refinement to operate on muscles in such a manner, believing that the adjustment is so fine that scissors must regulate it by the cutting of a definite number of muscle-fibers.

Therefore, the partial or graduated tenotomy or buttonholing process does not commend itself from clinical or anatomical conditions.

But when the glasses have been worn for a long period of time and a faithful training of the muscles has been followed; when we have given tonics and adopted all other aids to keep a proper and harmonious adjustment of the ocular group of muscles and yet the subjective symptoms of headache, eye pain, or vertigo still give cause for complaint, it begins to approach the time when we must operate on one or more of the muscles and when we operate we must sever the whole muscle from its attachment to the globe.

There is no fear that the muscle will so far retract as not to form a new attachment. There is no danger of producing squint, for you remember the substitute anchorage the muscle has in the

capsule of Tenon. The further training of the muscles will greatly aid the just and proper attachment.

The operation is done in the same manner as for strabismus, with this important difference. In strabismus we separate the muscle and also freely separate the capsule from the globe for a considerable area and always well forward to the edge of the cornea. This is done that the eye may rotate several degrees of an arc of a circle.

In functional derangements requiring operation we use a small hook and small pointed scissors in order that the muscle may be severed from its insertion and as little as possible of the capsule from the globe. In strabismus the new attachment is several mm. back from its original place, but in functional anomalies it is a very few. The muscle is held by capsule until a new attachment is formed, while we continue or renew our muscle training to enable the new insertion to be in a location best suited for the performance of its duties in conjunction with its fellows.

The eye is bloodshot for a few days. The muscle is still able to turn the eye but is lame. In a few days the wound is healed. the redness and scar gradually disappear, and the muscle is enabled to have better relationship in the reorganization in the firm of ocular muscles.

The tenotomy gives the muscle a new footing that it may work more harmoniously with the other muscles.

When a case has failed to gain relief by all the methods non-operative, there is nothing so gratifying to surgeon and patient as the comfort and relief that follow complete tenotomy. It must be remembered that the glasses are still worn and the muscle-training still continued for a time.

The best results are gained by tenotomy of over-acting muscles and fortunately these are the cases that most frequently present themselves. As in strabismus, it is necessary occasionally to advance a muscle too insufficient or too inefficient to perform its full duties.

No muscle should be operated on unless we have two good, valid reasons founded on careful and oft-repeated examinations, and as the result of thought coupled with good judgment, and never until all other methods have failed after due trial.

The results of tenotomy are so gratifying and satisfying that the ophthalmic surgeon is tempted to operate as a short cut to a quick cure, but it must ever be kept in mind that the success of the operation is based on the foundation formed by the proper glasses worn, the training of the muscles, and all the other aids to secure

perfect coördination in the ocular group of muscles. The results are to be judged more by the liberty and freedom from pain, headache, and other complaints of patient than by the tests of prisms and other instruments.

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#### DISCUSSION.

J. S. Prout: Mr. President.—As Dr. Wright has covered the ground extremely well and as his views strike me as conservative and safe for us to follow, I have very little to add to what he says. His point that about three per cent. of cases with muscular troubles require cutting operations for their relief, may be well taken, but I should say that the proportion is smaller than this. As he says, some men operate first and test afterward—or never. It is the *easy* method for the physician. I think with him that such cases should receive painstaking examination of all the refractive and muscular conditions that exist and the eyes be then given time to respond to the glasses and treatment prescribed. This will be slow work, but, in a large proportion of cases, satisfactory without resort to surgical interference. These people tax our time and patience; they cannot or will not give the time needed for proper treatment. I believe I have erred a few times by not operating, but I freely confess I am prejudiced against disturbing the natural relations of the parts by knife or scissors.

There is much to be done by testing and exercising with prisms. The method of Gould of Philadelphia, "weighted stimulus convergence," I think he calls it, often works satisfactorily with the internal recti muscles. These can be readily stimulated to extra action, as all our *near eye work* is done with convergent visual lines. With the external recti muscles, which, working together, have so little divergent power, their function is apparently only *to take up the slack* as the interni relax—it is not so easy to excite active contraction. This inequality is perhaps the reason why weakness of the externi, or overaction of the interni, causes so much discomfort. The weaker muscles are tired out in their efforts to maintain the proper equilibrium of the lateral forces.

Nasal and nasopharyngeal troubles cause more or less disturbance in the relations of the eye muscles. When we consider the far-reaching effects of adenoid enlargements it is easy to believe that they can interfere with the nervous balance of the ocular muscles; and an adhesion between a deflected septum and tur-

binated body may be a center from which injurious eye and ear reflexes may radiate. The patient is not helped by cutting, or pretending to cut, his eye-muscles when the cause of his trouble is in his nose or pharynx.

N. L. North, Jr.: There are just two points in the paper, that the doctor brought out, that I think are very well taken. The whole paper is extremely conservative and I think we can all heartily approve of it. One of those points is the fact that we see so many patients who are wearing prisms and wearing them continuously. They have been ordered for them and they think it is a permanent thing, we often finding them wearing them for periods of five or six or ten years. The point the Doctor made is that they are simply a crutch, and that they should be discontinued when the object desired is accomplished and the need has passed away.

The other point is the close relation between the accommodation and convergence. Dr. Gould, of Philadelphia, takes the stand that without a mydriatic we have not completed our work in the refraction of the eye, and I have often thought that if we went on further and used atropin a little more extensively and thoroughly we might find a small error in the refraction which would, when corrected, allow the eyes to act more easily and comfortably and in that way establish a balance in the ocular muscles.

Speaking of partial tenotomies, I had a patient who had some thirty or thirty-five partial tenotomies and was still to continue along this line. There was nothing on the conjunctiva to show any scar-tissue or anything of that kind, and it would seem in that series of partial tenotomies on one muscle, as if sufficient cicatricial tissue would be developed to show some little mark. Of course that might not be; but she was not improved, and I carefully administered atropin for ten days and a refractive error was found which, when corrected, and she had time to become accustomed to her cylindrical lenses, entirely relieved her condition. She has had no need of any more tenotomies, and I have kept her under observation, owing to the fact that she had had so much operative interference, for several years, and she has had no further trouble and no need of any further treatment whatsoever.

Dr. Ingalls: I feel that we are all very greatly indebted to the Doctor for the clear, concise, and conservative paper which he has given us to-night, upon a question which is talked about a great deal, of course, by the general practitioner as well as those interested in eye-work. The point that he made at first was, I think, a



most excellent one, and that was, first, we must attend to the refractive error; be sure you have corrected the refraction, and then let the patient wear the glasses for a proper length of time. Hansell, in his new book on the anomalies of the ocular muscles, makes a special point of this, namely, that great care should be taken in *thoroughly correcting the refraction first*, as he regards this in many cases the cause of the muscular error. Those who are cranks, as we might say, upon the subject of tenotomies, very many times overlook that point. I recall a case which I saw only a few months ago, a young lady teacher, who was about to have a partial tenotomy done, but her family doctor objected. I found upon examination with the ophthalmoscope that she had a hypermetropia of three diopters; the case was put under atropin, and then I found she had a hypermetropia of about five diopters. The proper correction was given, and she put on her glasses and came to the office and she said she felt as if she were in a new world, the relief from headaches has continued, so that no operation whatever is necessary. However, sometimes when the refraction is corrected we know that they come back to us and still there is some trouble. I think, while, of course, at the outset we ought to know the condition of the muscles, after a proper trial, then the combination with the prisms gives great relief. I remember a case I had some four years ago; she had been seen by a celebrated tenotomist and was about to have an operation done. She had been wearing glasses to correct her myopia, but after quite a number of trials I managed to arrange for prisms to be combined with the proper concave glasses, the trouble disappeared, and she has no desire for operation. I mention these as types of cases in which, perhaps, some surgeons would advise an operation; but we must bear in mind that the operations are not always successful. I remember seeing, six months or a year ago, a banker, who is not generally given to profanity, but if you want to get an assortment of lurid profanity you have only to mention the subject of tenotomy, and he will give you samples of swearing that will astonish you. He said that he was troubled with some headache. Then the doctor went to cutting the muscles, and finally he was troubled with diplopia, and when he attempted to fix his mind upon his business then the double images came before him and he was almost distracted.

I wish personally to thank the Doctor for his paper, and I think we all ought to feel highly gratified at the way in which he has presented the subject.

B. Onuf: I felt very much interested in the paper of Dr. Wright. When I first saw the announcement of the paper I thought the Doctor would chiefly comment on a field in which I was at home, chiefly speaking on the functional disturbances which come under the eye of the oculist and also the neurologist, but I see he has chiefly confined himself to conditions with which I am not so familiar. I may be allowed to touch upon those disturbances which come principally under the eye of the neurologist.

The disturbances that we most see are the neurasthenic and the hysterical disorders of the ocular muscles. In hysteria it was first thought that the ocular muscles were never subject to the hysterical conditions; it was thought that hysterical palsies were confined to other parts of the body and left the eye free, but lately it has been found that the ocular muscles were just as subject to these changes as those of the other parts of the body. I believe that the cases of spasm of accommodation come chiefly under the eye of the oculist. I at least have not seen one case so far, but I have seen them described. In Dr. B. Sachs' clinic I saw a hysterical case of very typical convergent strabismus, with an apparent ptosis of both eyes. I say apparent, because this ptosis was probably not one due to palsy, but to photophobia; the patient half shutting his eyes because the light hurt him. In that case there were some very marked stigmata of hysteria, for instance, the patient had complete analgesia of one side of the face, which after a time disappeared entirely. The ptosis was really only a spasmodic condition, and the strabismus was most probably also due to spasm of the internal recti muscles. It is interesting further to say that the disturbance set in quite suddenly, and was due to mental shock. The case improved greatly. I could not follow it to recovery, but I saw it improve greatly.

A subject that has interested the neurologists lately is the condition of the pupils in hysteria. There was a time when disturbance of the pupillary functions was considered as an almost certain sign of organic disease. We know now that that is erroneous. We find marked disturbances of the pupils also in hysterical patients. I remember one case of astasia abasia, a hysterical disease, shown to me by Dr. Joseph Fränkel, in which there was complete loss of light response of the pupils. Yet there was no organic lesion to account for it, and after some time the response returned again. I have seen another case in Dr. J. C. Shaw's clinic, in which there was complete analgesia of one arm and very marked hyperesthesia of the head, and this patient showed tem-

porarily on one eye amblyopia and complete loss of light response of the pupil.

One point that is very interesting is the condition of the pupils in epileptic and hystero-epileptic attacks. Until recently we have considered immobility of the pupil as a certain diagnostic sign in favor of epilepsy as against hysteria, but lately as observers have examined the pupils in hysterical attacks they have repeatedly found them without response, and I can say from my personal experience, I have seen a typical hysterical attack with complete loss of the light response of the pupils during the attack. So at present the immobility of the pupil, which used to be considered as a certain sign of epilepsy, as against hystero-epilepsy, has also lost its diagnostic value.

I want finally to call your attention to a disease which has been described only rather recently: I refer to the so-called *myasthenia gravis*, in which certain muscles temporarily become weak and may become entirely paralyzed. This condition has been chiefly observed in the muscles of the face, and has also been called *pseudo-bulbar paralysis*, but it has also been observed in the eye-muscles. In some cases the paralysis disappears after a short time, or it may last longer. The patient may have several attacks which are of no consequence, but in some cases the disease has taken a fatal course—especially in those which affected not only the eye and facial muscles, but also those of the extremities.

Heber N. Hoople: I recently overheard two eminent oculists in New York talking together. One said to the other, "I don't expect any more to see any one of my confrères write on functional anomalies of the ocular muscles, without making a fool of himself," lowering his voice as he finished.

I congratulate the reader of the paper to-night in that he has avoided making a fool of himself in the way in which this eminent specialist said most of those did who wrote on muscular anomalies.

Of course, we cannot help looking askance at some of the oculists when we know that there are so few amongst us who have any leaning whatever towards cutting muscles in snips to attain important ends; and yet we have had some who have been bold enough to go extensively into the correction of ocular anomalies by graduated tenotomies. But we can readily understand some of those who advocate the cutting of muscles in that way, when we know what their object is, because it has not been hidden entirely, but secretly avowed as commercial. We trust that the scientific spirit will deal fairly with this method of treatment, and

that graduated tenotomies will get the full share of credit that belongs to them, and nothing more.

It is refreshing and helpful to us to think that the conservative side of the subject is brought up as the reader of the paper has brought it up before us to-night, not exhaustively, of course, and not in a controversial way; but so as to succeed remarkably in avoiding disagreeable points.

There is one thing suggested by the paper that I think we ought to enlarge upon a little, and that is, that something more than even an error of refraction is found in these cases, and Dr. Prout has already hinted at what is advocated and what is exceedingly helpful and needful—that is, a prolonged study of them. He has drawn our attention to the necessity of making a study of these cases, seeing them a great many times, and working upon them.

And it is that thing that I want to emphasize, and I want to emphasize it with another factor, that other factor being that even without a refractive error we will have a functional anomaly, and that when we have corrected the full refractive error we will still have a functional anomaly in many cases. Now, what are we going to do in cases of that kind? That is where the general practitioner's knowledge of general states comes in to our aid, because there is no question whatever that the neurasthenic condition has a great deal to do with these cases, and that the neurasthenic condition is often the lurking cause already hinted at. I can give a recent illustration of how a lurking thing may be the cause of such anomaly—a case of adenoids, whose removal caused disappearance of the trouble. The other day I operated on a patient, twenty years of age, with adenoids, not serious adenoids, but such as I thought counted for something. Now this patient had a choreic nod, a jerk of the head. She was a healthy girl, with a pretty good constitution, and yet there was something hidden that alone could account for that nod, and in order to ferret the thing out I thoroughly cocaineized the back of the pharynx through the nose. At once the nod disappeared. I determined she should not wear her adenoids any longer and took them out. She has never noticed her nod since. I saw her to-day, and she did not nod during the period of my observation. That was a thing that would not be suspected ordinarily. The same cause has been found to be operative in causing squint; and the removal of the adenoids has been found to cure the squint.

I think it would become us well to work hand in hand with

the patient's physician in bringing the patient to the understanding that a long period of attention to general health, associated with full correction of the refractive errors and a full examination of the conditions in the direction of functional anomalies of the ocular muscles, would result in great good to the patient. That is where the general practitioner and the specialist are not working well enough together, 'here is not a thorough enough understanding between them about it, perhaps. I should make it a point to have that understanding clear with the physician of the patient who came to me. I should have the physician understand that the patient must be kept under observation long enough to insure a state of health good enough to free him from the functional anomaly as far as it was dependent upon his weakened nervous state.

P. Chalmers Jameson: The writer of the paper to-night has, of course, drifted quite gently along over the insuperable difficulties that are to be met with in these cases, and that was the right way for him to do. I wish I could write a paper on that subject and avoid the difficulties as easily as he has done. I congratulate him on what he has accomplished.

The subject has been so well and thoroughly gone over that there does not seem much more for discussion, but there is just one point which has not been mentioned, and I would like to make it, relative to the functional disturbances of the ciliary muscle. Functional derangement of the ciliary muscle is evidenced in two ways. The condition in which spasm or excessive action exists and that of relaxation or deficient tonicity. In the former condition, of course, the proper line of treatment is the use of atropia, and in both classes of cases the correction of errors of refraction and general attention to the conditions under which the individual labors with his visual apparatus. But there are a class of cases where simple debility or relaxation of the ciliary muscle exists with no accompanying error of refraction. In those the suggestion of Dr. Holk I have found to be an excellent one, namely, the use of sulphate of eserine in tonic dosage of  $\frac{1}{40}$  grain to the ounce, instilled into the eye two or three times daily. In regard to the equilibrium of the external ocular muscles, personally it has always been a matter of difficulty to determine what the equilibrium really should be. We used to be taught that the equilibrium of the internal and external recti was as 10 is to 6. That is to say, with a red glass placed over one eye and a prism with its apex pointed toward the muscle to be tested over the other;

the internus should be capable of overcoming a prism of 10 degrees before diplopia is produced, and the internus 6 degrees; but, as a matter of fact, this condition exists in an exceedingly small proportion of cases. This discrepancy is not only present in cases where evidences of functional derangement of the organ exist, but in many perfectly healthy eyes, where no noticeable discomfort is manifested. Moreover, these measurements are often not a constant factor, their condition frequently varying as to strength in successive and subsequent examinations. There is then a danger to be guarded against in trying to produce by operative means a condition of things in asthenopic and functionally deranged eyes which in the majority of cases is not to be found, and is unattainable in the healthy organ. While there are undoubtedly cases where operation is indicated, and which do not present the condition of strabismus or even the symptom of diplopia, yet one feels that there is present in the healthy eye a marked physiological "leeway" as to the varying strength of these muscles, and we should bear this in mind when considering operation. I always feel that much attention should be paid to the general condition of the patient and that the condition of the muscular system of the eye is frequently but a reflection of that existing in the body, and that any eye which by reason of debilitated physical condition is supplied with poor muscle-fiber, debilitated nerve, and vitiated blood to nourish both will not do good work.

E. W. Wright: Mr. President and gentlemen, the free discussion this evening leaves little room for me to speak.

I think the point has been thoroughly established to-night that in dealing with the extrinsic ocular muscles we must never be in a hurry, but when we find muscular troubles, we must be fully prepared to meet them; in other words, to be resourceful.

Our tests only point out the way the muscles are acting; there is no standard test for muscle strengths, but our tests do show which way the muscles are acting, those that are over-acting and those under-acting.

We find the relation between the externi and the interni muscles to vary at different examinations. We read of several standards, but it is best to make our own standard, much after the plan of Dr. Bannister, a surgeon in the army, who examined 100 soldiers with vision sufficiently good to enter the army. He found the strength of their ocular muscles and compared it with other statistics.

In the muscle-training or prism exercises, I take it that the

training is not in the same line as the blacksmith at the anvil or the bicyclist on his wheel, but more after the nature of voice-culture by improving the coördination and stimulation of the nerve-centers for the coaction of all the muscles.

You can exercise a muscle to overcome a prism of  $20^{\circ}$ , then to overcome a prism of  $40^{\circ}$ . That does not mean that the muscle has doubled its size, but that its power is applied by control of the nerve-centers to the best advantage.

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## PROGRESS IN MEDICINE.

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### SURGERY.

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BY GEORGE RYERSON FOWLER, M.D.,  
ASSISTED BY RUSSELL S. FOWLER, M.D.

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#### OPERATIVE TECHNIQUE IN INTESTINAL INVAGINATION.

Dr. Hipolite Oderfeld (Ordinator in the 3d Surgical Department of the Jewish Hospital at Warsaw, *Centralblatt f. Chirurgie*, 1899, 10, page 292).

Renewed interest has recently been felt in the treatment of intestinal invagination by reason of Rydygier's, Braun's, and other researchers' investigations. To-day, resection of the entire invaginated portion, treating it as a tumor, is considered the best method. Enterostomy and entero-anastomosis have so trifling a curative effect that they can hardly be taken into account. On the other hand there are certain cases in which resection is difficult. It cannot be undertaken in cases in which invagination is present in the lesser pelvis, this being determined by palpation through the rectum. Such cases, probably, rarely occur in the large hospitals and clinics of Europe but in the outlying provinces they are frequent. Recently the author has had an opportunity of operating in three such cases and had previously observed similar conditions in the clinics at Königsberg, Breslau, Krackow, and Lemberg. In these cases disposal of the invaginated portion after the method of Barker-Rydygier is the only rational procedure. This method consists in the transverse incision of the invagination through a longitudinal incision in the invaginating portion and the subsequent disposal of this portion through the

anus. Concerning this ingenious method the author found only theoretical and unfavorable criticisms in the literature. As, however, this method represents up to the present day all our means of intervention in such cases the author's experience in three cases permitted him to recognize certain disadvantages in the method. He calls attention to this method. First: The first step in this procedure consists in placing a suture around the neck of the invagination, sewing the invagination to the invaginations in the course of the fold of invagination. The principal objection to this method is that the bowel is not a tube that can be sutured in this fashion for the mesentery is invaginated along with the bowel and this very point forms the Achilles' head in this method of suturing. In one other case in which this method was used the finger, passed through the longitudinal incision into the invaginations, in order to examine the permeability of the bowel, passed directly into the peritoneal cavity instead of into the intestinal lumen. The patient was saved only by a modification of the operative procedure. In other cases, in spite of conscientious suturing the author always felt that everything was not all right at the site of the invagination of the mesentery. Another objection is that careful suturing is rendered very difficult by reason of the invaginated bowel being held deep in the abdominal cavity on account of the shortening of the mesenteric attachment, its mesentery being invaginated with the bowel. This occurred in all of the author's cases. Second: The second step of the Barker-Rydygier's method consists in making a longitudinal incision of from eight to ten centimeters in length in the invaginations; through this the invaginated bowel is cut transversely, the mesentery is ligated *en masse* within the wall and the stump and the invagination are sutured to each other. This is objectionable for many reasons: (1) It is at total variance with the principles of modern aseptic surgery, since these steps are carried out within the intestinal lumen in the presence of myriads of virulent bacteria. This danger may, of course, be somewhat decreased by frequent washing in the course of the operation, yet it will always be present and it is here that the weakest point in this procedure is found. The very ligation of the mesentery is done from within the bowel, that is, in a septic medium, hence we cannot depend upon such a ligature. The best point in this procedure is the leaving of the impacted invagination within the lumen of the invaginations. Formerly this was taken out through the opening made in the invaginations. This somewhat decreases the danger of



infecting the peritoneum. The leaving of the infected portion of the bowel with its subsequent removal through the anus was a great advance. This was proposed in 1896 by Dr. Matlakowski. The last step in the procedure consists in the closure of the longitudinal incision. This does not offer any disadvantages.

The author claims from his experience with this method that it is not as favorable as is claimed by Rydygier. He proposes an operative procedure which he has not found mentioned in the literature. On account of its simplicity it has probably been used by various surgeons. He gives the credit for the procedure to his former teacher Matlakowski, and calls the procedure after this teacher. This method is indicated in all cases of intussusception in which the Barker-Rydygier method is now considered as the operation of choice, *i.e.*, in all those cases in which resection cannot be employed in consequence of the difficulties present by reason of the invagination lying deep in the lesser pelvis. The essential feature of the method is the resection of the neck of the invagination. The operation is begun with the application of strong intestinal clamps, those of Kocher and Doyen, used as in Kocher's resection of the pylorus. This is shown in the illustration. One clamp being placed on the afferent bowel loop (a. a.) the second on the efferent bowel, clamping the invaginations and the invagination at the distance of a few centimeters from the site of invagination (b. b.).

The next step consists in securing the mesentery, which, because of its invagination, is rolled together, forming a thick cord; in addition, the remaining mesentery lying between the clamps is ligated. The mesentery is then separated from the bowel (d. d.). Now the entire portion of the intestine between the two clamps is resected and removed. The result of this removal is schematically shown in Fig. 2. The next step in the operation consists in the removal of the clamp from the stump of the invagination (Fig. 2 a.). While the assistant holds the bowel, the clamp is carefully opened. This allows the invagination to immediately retract into the lumen of the bowel, and there disappear from sight. It is remarkable how easily and rapidly this occurs. Should, however, this not be the case the invagination is readily pushed further into the bowel by means of a little massage. There now remain two open sections of bowel (Fig. 3). These are united end to end or by entero-anastomosis, after the manner of Kocher. This completes the operation. The abdominal cavity is closed, and we may, if we wish, palpate with the fingers the portion of bowel

left within the lumen of the gut and remove it through the anus.

The author has used this method successfully in one case. In addition it has been tried experimentally in dogs, in Prof. Kocher's clinic in Berne, with the assistance of Prof. Otto Lang. It can be performed rapidly and absolutely aseptically. All animals operated upon by this method have lived; one died in consequence of a cause not connected in any way with the method. The operation answers all requirements of modern intestinal surgery, and the author hopes it will meet with approval in indicated cases.

#### RESULTS IN 360 OPERATIONS UPON THE GALL-BLADDER.

H. Kehr (*Sammlung klin. Vorträge*, H. F., No. 225, Leipzig, Breitkopfe Hartel, 1898.)

This report contains a number of new and important points in connection with gall-bladder lesions. In 327 operations for biliary calculi there were 12 fatal cases ( $3\frac{8}{10}$  per cent.); in the last 151 of these only one resulted fatally; all cases in which complete fixation to the parietal peritoneum could be accomplished, recovered. In all the latter the resulting fistula finally closed satisfactorily. No real recurrence of calculi was encountered, with the exception of four cases, in which silk sutures formed the nucleus for fresh stone formation. Recently the author has extirpated the gall-bladder much more frequently than formerly. Cystectomy was done in 64 cases, three of which proved fatal. This was done in preference to cystotomy in order to prevent attacks of pain due to inflammatory processes in the gall-bladder. In cases which by reason of extreme shrinkage of the organ did not permit of this, the gall-bladder was simply freed from the under surface of the liver, approximated to the parietal peritoneum, and opened, the author preferring this to the introduction of a tube, which was proposed by Kehr, and recently modified by Poppert. The author defines the indications for the different operations and also the general indications. He warmly advocates an accurate diagnosis in each case. Operation is contra-indicated in cases of acute obstruction of the common bile-duct pursuing a normal course, also in cases of chronic obstruction due to carcinoma. As for diet, the author advises meals at frequent intervals, particularly during the night, in order to obtain a frequent evacuation of the gall-bladder.

## TOTAL ELIMINATION OF BOWEL.

R. v. Baracz (v. Langenbeck's *Archiv.*, Vol. LVIII., fasc. 1).

There have been a great number of discussions as to whether total elimination of bowel, with closure of the two ends of the eliminated portion, is a safe procedure. Obalinski and the author advocated its use, while Reichel, Varath, Hackenegg, and others condemned the procedure. Recently the author conducted a number of experiments, which proved that a considerable quantity of fecoid matter is formed in the eliminated bowel, and that numerous bacteria are present. In the wall of the eliminated portion there are numerous alterations, ulcers, gangrene, perforation, with consequent peritonitis. Rupture of the eliminated loop may occur at a distant period. Primary good results may finally result disastrously. The same conclusion is reached in regard to Obalinski's case. B. and every impartial observer must reject Obalinski's total elimination as a dangerous and non-permissible procedure. A rational procedure would be total elimination with the formation of a fistula, but even this must be only in certain cases. Entero-anastomosis is preferable. B. had bad results from the incarceration of bowel in the recently formed hiatus in the mesentery. This is to be avoided by suturing of the hiatus or if this is not practicable, B. uses the eliminated bowel to close it (illustration in original article). B's experiments prove beyond doubt that total occlusion is absolutely contra-indicated.

## RESECTION OF SECOND BRANCH OF TRIGEMINUS.

Dr. Alexander Frankel, General Polyclinic Hospital, Vienna (*Centralblatt für Chir.*, IX., 261-263, 1899).

In some cases in which resection of the second branch of the trigeminus at the foramen rotundum is indicated, Lucke's procedure, as modified by Braun, is probably most frequently employed. The author used the method described below in a case which eighteen months before had undergone a neurectomy at the site of the infra-orbital foramen. His attention was first called to the procedure by Dr. Julius Tandler, prosector under Prof. Zuckerhandl. The operation was carried out upon the cadaver, then upon the case mentioned. The result was very satisfactory, and the author recommends the procedure in that it accomplishes its purpose without leaving a visible scar.

The steps in the procedure are as follows: (1) Separation and paring down of the mucous membrane of the upper jaw over the fossa of the canine tooth. This is carried on in a lateral direction until the zygomatico-alveolar crest is reached, the upper lip being strongly retracted. (2) An opening is made into the antrum of Highmore by turning up a flap. (3) Inspection of the antrum with the aid of artificial light, the nerve being diaphanous at the lateral portion of the posterior wall. At the nerve site the mucous membrane is incised and lifted out of the way, with a slender periosteal elevator. (4) An opening is made by chisel or trephine in the upper and posterior angle. This brings the nerve into the field of operation. It is caught with a small blunt hook and its course followed to the inferior orbital fissure in one direction and to very near the foramen rotundum in the other direction. It is put upon the stretch and resected. Finally, the flap on the anterior wall of the antrum is closed, leaving room for a small strip of iodoform-gauze to serve as a drain for the antrum, and the oral mucous membrane is partially closed. Hemorrhage is practically nil, slight compression sufficing to control it.

The procedure is chiefly to be commended because it avoids scarring; there is no vessel to be injured such as the internal maxillary; it is as rapid as it is reliable. There is some disadvantage in the relative difficulty experienced in lighting the deeper portions of the antrum, but this is readily overcome by means of the electric headlight. The orbit may be opened accidentally in attacking the posterior wall of the antrum.

Carnochan, an American surgeon, used a similar method some thirty years ago. He, however, made a skin incision and followed the nerve back from the infra-orbital foramen. This procedure was followed by such septic complication, as this was in pre-aseptic days, that the procedure was abandoned. At the present day, however, there should be no objection to the method. The author's case suffered a slight catarrh of the antrum as the only complication of the operation.

In the original there is an illustration, copied from an anatomic preparation by Dr. Tandler, showing the topographic anatomy of the region in question.

#### HEPATIC ABSCESS FOLLOWING APPENDICITIS.

Dieulafoy (*Semaine méd.*, Nov. 9, 1898).

This author, a practitioner of internal medicine, is one of the

warmest advocates of the operative treatment of appendicitis. He reports the following case, complicated by multiple hepatic abscesses: The patient, a female, aged forty-three, was suddenly attacked with abdominal pain, located primarily in the ileo-cecal region. This pain lasted for a few days and then disappeared. Ten days later sudden severe chills appeared, accompanied by high fever and abdominal pain. After a few days icterus appeared. These symptoms persisted for four weeks, then resolved into a condition of irregular fever, at times quite high, without chills. The liver was equally and increasingly enlarged. The septic symptoms increased, and death occurred two weeks later. Post-mortem revealed a liver weighing 3200 gr., which was the seat of from 150 to 200 abscesses. The appendix was surrounded by adhesions in which was a small abscess cavity filled with very foul-smelling pus. The veins at the base of the appendix were varicose in appearance and showed different degrees of endo- and periphlebitis. Cultures from the abscess cavity in the neighborhood of the appendix, from the inflamed veins, and from the liver abscesses resulted in pure growths of the bacterium *coli commune*.

On the basis of this case and other observations the author called this complication "appendicular liver," and gives the following résumé of the disease. Hepatitis consequent upon an acute appendicitis appears after the subsidence of the acute peritoneal symptoms. Its onset is sudden, and it is characterized clinically by a rapidly increasing diffuse enlargement of the liver, icterus, and in some cases vomiting and diarrhea. This condition is not to be confounded with toxic icterus, which occasionally manifests itself in conjunction with appendicitis. The liver is filled with numerous small abscesses. It is to be likened to a sponge filled with pus.

The prognosis is naturally quite unfavorable. In this connection the author urgently advocates early operation and condemns most forcibly the expectant treatment of appendicitis. He repeats his former opinion that "No one should ever be allowed to die of appendicitis."

PROCEEDINGS OF SOCIETIES.

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THE BROOKLYN SURGICAL SOCIETY.

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*Regular meeting, February 16, 1899.*

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A. T. Bristow, M.D., President, in the Chair.

INTRACTABLE DISLOCATION OF THE SHOULDER.

Dr. Burdett O'Connor presented a boy who had fallen just a year ago, and struck on the left shoulder and side. After the accident he could use the arm, and felt no particular pain at that time. A month later, when the shoulder commenced hurting him, he saw a physician and was told that a dislocation was present. The dislocation was reduced at the time, and, as the shoulder still hurt him, he was taken to the Norwegian Hospital, where it was found that the dislocation was not reduced. He was given an anesthetic, and it was then reduced. He carried his arm in a sling for two or three weeks, and after removing the bandage tried then to move his arm and found motion considerably impaired. The case was presented to show the ankylosis and the remarkable atrophy of the deltoid muscle, and also to see if anything can be done for this young man, as he is eighteen years of age and obliged to earn his own living. For a month after the accident he could raise his hand over his head.

Dr. Russell Fowler said that the dislocation of this shoulder was supposed to have been reduced, but that it evidently was not reduced, now; and it is a question whether, in view of that, if there was not at the time of the injury a fracture.

Dr. Alexander Rae said that every attempt at reduction should be made. With massage of the shoulder-joint as a preparation gradually breaking up the adhesions might give a good result. He had had several cases recently in adults, in patients forty to forty-five years old, in which the dislocation had existed for five or six months; and by regular massage treatment for a week or ten days, and then by a full anesthetization and a careful and thorough breaking up of the adhesions before attempt at reduction was made, he secured very good results. In three cases which he recalled the reduction was successfully accomplished. He

thought an attempt of that kind was good surgery, and in view of the deformity which existed in this case the patient was entitled to it. In the event of that failing, it is a question if the removal of the upper part of the humerus would give him a better shoulder. This would let the upper end of the humerus come into the glenoid cavity. The diagnosis was plain enough to him.

Dr. J. M. Downey said that he believed that if the humerus were put back into the glenoid fossa, it would not stay there. Judging from two cases which he had seen operated upon, he would advise against such a proceeding in this case. In both cases it was almost impossible to put the humerus back into the cavity after the incision was made and the ligaments loosened up. He believed in a case which has gone so long as this, it is inadvisable to try to do anything with it, as the patient might have a worse arm in the end.

Dr. Henry Wallace said that the question of the treatment of the case by massage and the exsection of the head of the bone had been mentioned. It is a question whether the atrophy of the muscles has been due to the injury of the circumflex nerve or the disuse of the attached muscles. If proved by the use of electricity that these muscles would regain their tonicity the operation would be worth trying.

#### SEPARATION OF THE OLECRANON.

Dr. J. M. Downey presented a young man who fell when jumping from an ice-cart, and after working eighteen months he noticed that the sensation was lost in the little and ring-fingers. This was about four weeks ago. Up to that time he seemed to have good use of his arm. It can be seen now that there is a separation of the olecranon from the ulna.

Dr. Russell Fowler observed that all of this patient's history had not been given. He is a plumber, and is working constantly about lead, and has developed this numbness within the past three weeks. Although the case is one of traumatic paralysis, still it might easily be confused with lead-poisoning. The injury of the olecranon does not interfere to any extent with motion of the joint, and does not need operative interference.

Dr. Downey added that it was over a year and a half ago that he treated the young man for fracture, and had not seen him since until the evening upon which he was presented. The man is a heavy drinker, and had some pains in the stomach and abdomen gen-

erally. Whether the numbness and loss of sensation in the little and ring-fingers and the contraction in these fingers can be attributed to lead-poisoning is a question. It had seemed to the speaker that it might be due to interference with the nerve-supply caused by pressure upon the ulnar nerve, and he wished the judgment of the Society as to whether operative interference offered any hope of improving the conditions present.

Dr. W. S. Simmons said that as to pressure by a fragment on the nerve, we might expect degeneration from that point downwards toward the periphery, but he thought it would be rather unusual for the ulnar nerve alone to be involved in case of paralysis due to lead-poisoning without some other nervous derangement, possibly in the other arm or in the median nerve of the same arm. Pressure on the nerve above gives pain in the fingers, and might lead one to think that in this case it was due to such cause.

Dr. A. T. Bristow said that he would like to remind the gentleman that the musculo-spiral nerve supplies the extensors and not the flexors. Lead-poisoning interferes with the musculo-spiral nerve, or the musculo-spiral group of muscles, and causes paralysis of the wrist extensors, with the exception of the extensor carpi radialis longior; besides as the nerve derangement in this case occurs on only one side, they must exclude lead-poisoning.

Dr. H. L. Cochran said that he should not advise operative interference in this case. He doubted if it could be improved with operation now.

Dr. Thomas B. Spence said that he had seen one or two cases similar to this, in which the ulnar nerve had been involved, although no fracture of the olecranon was present, and in every case the operation made it worse than the original condition. It is a difficult thing to dissect down on the nerve and free it without inflicting additional injury upon the nerve. It looks easy in a picture, but it is certainly a more delicate thing to dig around where there is distortion of the normal anatomy; and he agreed with Dr. Cochran in advising non-interference. The man had a useful hand, and the slight numbness of the two last fingers was a matter of little importance.

Dr. W. S. Simmons said that he saw a case of fracture of the fibula, two or three years ago, in which there was pressure on the peroneal nerve, and, in view of the fact that even after the operation the patient had paralysis of the anterior tibial group of muscles and the peroneal nerve, he was not in favor of operation.



Dr. Downey expressed the belief that this patient had fibrous union, the same as occurs in the patella. He had thought of wiring it. He did not believe there would be much trouble in finding the nerve. The patient's occupation is that of a plumber, and the speaker feared that the nerve degeneration might continue and the fingers contract. The present trouble sufficed to interfere with the usefulness of the arm to such a degree as to incapacitate him for work. It seemed to the reporter of the case that that operation would probably do some good. As far as callus was concerned, he did not believe there was any. He believed it was fibrous union, and the effort of the patient's new work had separated the fragment after eighteen months.

Dr. Bristow added that there was an interesting point which occurred to him in relation to the contraction in the ulnar fingers. The flexor profundus digitorum is supplied in its ulnar half by the ulnar nerve, and if there is a degeneration of the ulnar nerve here there would be a degeneration of the flexor group supplied by that nerve, and in that case there would be some wasting of the muscle. That is a fact that pretty accurately corresponds with the condition present. There is also a sensory disturbance in the fingers supplied by ulnar nerve.

#### SARCOMA OF THE BREAST.

Dr. W. A. Tomes reported a case and presented the specimen of sarcoma of the breast. The woman was seen in March. She had a small lump on the breast, and had tried to get rid of it by rubbing with some liniment, but as it grew larger she consulted the speaker. Her grandfather died of cancer of the stomach and one of her sisters died of cancer of the uterus. Her age was forty-two. He examined the axilla, and found to the touch that it was free from any enlargement of the glands. The tumor in the breast was as large as an English walnut. The skin over it was movable, and over the nipple, also. She did not care to be operated upon, so she was not heard from again until July, when she said she had been to another doctor, who had examined her blood, and said the tumor was non-malignant, and gave her an ointment. When she came to the speaker in July he found that the tumor had increased in size considerably. The skin over it was not movable now, and there was a lump in the axilla—advised her, then, to be operated upon, and she acceded. He removed the entire breast, with the pectoralis muscle, clearing out the

axilla. The wound healed by primary union. He told her to come back every month for examination, and in September (the operation having been performed in July) he noticed a small nodule in the scar, just about where the tumor had been. He took that out, going about an inch outside of it. Since then nothing suspicious has developed.

Dr. J. M. Downey read a paper on "The Advantages of Chloroform as a Primary Anesthetic in Comparison with Ether."

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*Regular Meeting, March 2, 1899.*

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REPORT OF CASES OF APPENDICITIS.

Dr. George Wackerhagen reported two cases, as follows:

*Case I.*—A woman, aged thirty-four years, came under his care for an attack of acute appendicitis. The pain was very severe; she also suffered from headache, nausea, and vomiting; bowels constipated. The pain was promptly relieved by application of ice over the region of the appendix. The administration of one-tenth gr. doses of calomel was followed by free evacuation of the bowels. Highest temperature,  $99.1^{\circ}$ ; pulse, 84. Patient was confined to bed for about ten days, when she was able to resume her ordinary household duties. On the first of April she was taken with a second attack. The symptoms were generally the same as in first attack, although the pain was more severe. Highest temperature,  $102^{\circ}$ ; pulse, 110. This attack subsided by the 10th of April under the same treatment.

April 19th, operation along the outer border of the rectus muscle was done, after the method described by Dr. Kammerer, *New York Medical Record*, December 11, 1897. As this patient had suffered from time to time for several years from pain in the region of both ovaries, the incision was extended beyond the semilunar fold sufficiently to enable the operator to bring out and examine both ovaries, which were found affected with multiple Graafian cysts. These were relieved by knife-puncture, and the ovaries returned. The appendix appeared to be perfectly healthy, but, being somewhat distended, it was removed, and upon further examination a stricture was found about one-third of an inch from its attachment to the cecum. It contained fecal matter, which was beginning to harden at three points, one just behind the stricture. There is nothing special to report after the operation. Highest temperature,  $100^{\circ}$ ; pulse, 82. She returned to her home

on the first of May, and has been free from pain since that time.

*Case II.*—On the 25th of last June the speaker was called in consultation to see a gentleman who had been confined to bed for two or three days, suffering from a third attack of appendicitis; the intervals between the attack were three and five months respectively. Although hypodermics of morphin had been administered, he was not under the influence of the narcotic when seen. The pain was severe. He had been a hard drinker for several years, and his present sickness had followed excessive indulgence in eating and drinking. He was also suffering from headache, nausea, and some vomiting, bowels had not moved for three days. Temperature,  $100^{\circ}$ ; pulse, 95. It was decided to apply ice over the appendical region, and to discontinue the morphin injections. The ice treatment was followed by relief from pain. One-tenth gr. doses of calomel every half-hour produced a movement of the bowels next day.

June 26 patient was much more comfortable; temperature,  $100.3^{\circ}$ ; pulse 105; and a more thorough examination could be made. Pain was only severe upon deep pressure. Tumor could not be detected by this means or by rectal exploration. From the 26th of June to the 1st of July there was continued improvement, pulse ranging from 80 to 102; temperature between  $99^{\circ}$  and  $100^{\circ}$ . Large quantities of gas were expelled with each movement of the bowels. Hoping to succeed in carrying him over to the declining or interval stage for operation, temporizing treatment was continued. On July 1st, although generally in good condition, he had been restless during the past night, with slight delirium, and a swelling could be detected by deep examination. Stimulants in small quantities were now added to the treatment.

July 2d—Operation. Pulse, 100; temperature,  $99.2^{\circ}$ . The swelling had increased so that there was slight prominence externally. Incision over prominence of tumor, through muscular walls and peritoneum, revealed quite a large abscess, from which the surrounding parts were protected by iodoform-gauze packing. The appendix was found ulcerated and adherent at the bottom of the abscess cavity, and was removed. In this case it was found necessary to make a counter-opening through the loin, as the abscess had burrowed in a backward and upward direction. Patient was in good condition after operation. At 8 P.M., pulse, 102; temperature,  $99^{\circ}$ ; resting quietly. At 10:30 P.M. he became suddenly delirious, and so violent that two nurses could hardly keep him in bed; pulse, 120. After the delirium had subsided the com-

plained of pain in the wound, for which  $\frac{1}{8}$  gr. hypodermic of morphin was administered by family physician. At 12 o'clock the respirations became feeble and irregular, pulse going up to 150°, temperature 104.3°. Hypodermics of strychnia and brandy were then administered, but without any response, patient remaining unconscious, and died during the afternoon of the day following the operation. The family doctor had given another hypodermic of morphin at 3 A.M. He was unconscious, pupil contracted, pulse so frequent and feeble that it could not be counted. Oxygen was then administered by inhalation, strychnia and brandy continued hypodermically. No response to stimulation. At 8 A.M. the dressing and deep packing were removed and the wound examined. There was no soiling of the dressings nor any change in the condition of the wound. Stimulants and oxygen inhalation were continued without response. Patient died at 3:45 P.M.

Post-mortem not allowed.

#### PERIOSTEAL SARCOMA OF FEMUR.

Dr. Walter M. Friend presented a specimen of extensive periosteal sarcoma of the left femur. The outline of the bone was clearly defined, and the growth surrounding it. The patient from whom this specimen was taken was a young lady of eighteen. She was first seen in June, 1896. During the previous February she first noticed a lump in the popliteal space of the left leg. This had gradually extended upward. There was no pain, but flexion of the leg was interfered with. She could go about, but she had a pale look, as one sees in individuals who have a marked malignant cachexia. The patient was seen by several well-known surgeons, all of whom diagnosed the growth as one of sarcoma, with the usual unfavorable prognosis. The case was watched and examined from time to time until the following October, when the tumor was so extensive that operation seemed imperative. Amputation was accordingly done at the hip-joint, after an exploratory incision had been made, showing that the whole left thigh was involved. At the time of the operation the inguinal glands were not involved. The patient made an uneventful recovery. Very little blood was lost, Wyeth's method being used. Hot saline rectal injections did much to relieve the shock of the operation. One year and three months after the operation the scar was perfectly soft, there was not the least sign of recur-

rence of the disease. The patient had the appearance of health and vigor. She has not been seen since, though warned to present herself should any new growth appear.

The pathologist who examined the growth says the microscope shows the cells of sarcoma in the haversian canals, with bony structure, having been absorbed probably by the pressure of the growth.

#### HORSESHOE KIDNEY.

Dr. Friend also presented a specimen of horseshoe kidney. It was removed, post-mortem, from a patient sent into St. Peter's Hospital last summer as a case of appendicitis. The patient, a girl of twenty-five, had complained of severe pain in her right abdomen. Pain and tenderness were localized at the region of the appendix. She resided in a doctor's family, was seen by him, and sent into the hospital for operation. On careful examination the pain and tenderness were found to be higher up and more to the middle line than they are found in appendicitis; and a hard, movable, round mass, slipping away from the finger when touched, could be easily made out. The patient was put under ether, an exploratory incision made, and the hard mass found to be a movable kidney, the other kidney being easily felt, and found to be normal in appearance. The abdominal wound was then closed, and it healed. Three weeks later the patient died from a very obstinate diarrhea.

It will be noticed that the band which connects the two kidneys is composed of kidney structure, and not simply fibrous tissue.

Dr. Russell Fowler read a paper on "Partial Enterocoele."

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#### BROOKLYN GYNECOLOGICAL SOCIETY.

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*Stated Meeting, Held April 7, 1899.*

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The Vice-President, Robert L. Dickinson, M.D., in the Chair.

#### HISTORY CARDS.

Dr. H. P. de Forest: Through the courtesy of Dr. Edgar I am able to show the Society the set of three History Cards that he has recently devised for his own use in obstetric cases. The cards

are of the same size as those of my own used for a similar purpose; the arrangement differs somewhat from mine, and I shall be interested to compare their use on any given case.

This other card is one of my own; a Nurses' Record Card. These are of the standard size, but are printed on thin paper, and padded in lots of 25 or 50. They are used as a daily record by the nurse, and torn from the pad and kept by the physician at the time of his call. They can thus be readily filed with the History Card, will save a great deal of writing, and will enable us to keep complete records with the minimum amount of labor.

#### DISCUSSION.

Dr. Robert L. Dickinson: These cards of Dr. Edgar's are built upon the plan of Dr. de Forest's original cards. I share the latter's enthusiasm for cards, and have found them a great success, for a most complete and detailed history may be kept in this way with but little trouble. It is the only portable method. They are especially useful when sending a patient into the hospital. The interne copies into the hospital books the history contained on the private card, and to my card adds a brief description of any operation which may be performed during the patient's stay in the hospital. In regard to the size of the card, Dr. Jewett uses the postal size, 3x6, in preference to the larger size, 6x6<sup>11</sup>/<sub>16</sub>. Personally, I like this regular medical-history card—the largest card which can be carried doubled in the pocket and the thinnest that will stand up in a drawer and not break on being constantly handled.

The original method of filing these history cards was to fasten them together at the corners with a clip. I have found this inconvenient, and instead of a clip I now use paste to keep them together. It is also a good idea to put the last card of the history on the top in order to avoid having to turn back to find it. Or, if the history be a long one, it can be epitomized on the top line of the last card in use.

At the Brooklyn Hospital we have been using cards for all surgical histories during the past three years, and have found them more than satisfactory. In grouping the cards together an envelope which holds six or eight is used. Of course, this does not take in the nurses'-sheet records, but the more important items are written on the back of the temperature chart, such as dressings or treatment, and every trip to the operating-room, for opera-

tion, dressing of wound, or removal of stitches, is entered upon the operating-card. The cards are not very useful for general medical work, but are exceedingly so in special lines of work. Dr. Fowler has gotten up some for use in cases of mammary tumor; and for appendicitis cases. I have some for gynecological cases on which every possible variety and degree of pain and every symptom and every possible detail of the history are given in full. From these descriptions the interne selects the words needed for the individual case, thus securing a history that is more complete than by any other method I know.

Dr. Charles Jewett: These record-cards I have used since beginning practice. I prefer the postal size, because it is easily carried in the pocket without folding, although I occasionally have to write on both sides.

#### PLASTER CAST OF UTERUS.

Dr. Jewett: This cast was made from a uterus removed by Dr. McNaughton. It shows well the differentiation of the muscle structures into upper and lower segments, which was very marked in the specimen owing to the fact that the patient had been in labor three or four days before operation was done. The cast was made by the plaster process. The method should commend itself to the surgeon as a ready method of picture-taking in three dimensions. To make the mold, the specimen was placed upon a board and covered with plaster. After it had set, the specimen, which was soft, was pulled out. After hardening it was coated with Imperial varnish and painted with paraffin oil to prevent adhesion of the cast in the mold. The mold was then filled with plaster and the mold subsequently chipped off. It is important to get the right proportion of water and plaster. The result is best when the plaster is mixed thin, equal weights of water and dry plaster, but if it is necessary to work rapidly, it must be made thicker. The cast shown was colored with carmine after drying, and varnished with paraffin wax to give it the flesh-like appearance.

#### CÆSARIAN SECTION.

Dr. George McNaughton: This uterus was removed from a woman thirty-three years of age, married ten years, mother of six children. I saw the case in consultation with Dr. Stickles; she was pregnant at term and labor had begun, but no progress had

been made. Upon examination I discovered that the cervix was the seat of malignant disease. It was thought, however, that the canal might dilate, and it was decided to wait a few days before interfering. The patient continued to have labor-pains and manual dilatation was tried, but with no result, and she was, therefore, sent to the hospital, where I did Cæsarian section. In making the incision into the uterus I was somewhat alarmed to find that I had cut directly into the placenta, which was situated upon the anterior wall. There was some bleeding, which was soon controlled by means of a rubber ligature, used in the usual way. After delivery of the child, which weighed eight pounds, I did a complete hysterectomy. The patient was in a bad condition before operation, and suffered somewhat from shock, but soon rallied, and has made an uninterrupted recovery. Upon making a vaginal examination ten days after the operation I discovered a few small nodules in the vagina, which I believe should be removed.

## DISCUSSION.

Dr. Jewett: I had the privilege of seeing the operation. The placenta was attached anteriorly, which occurs in about half of the cases. Under such circumstances, I think it better to cut straight through the placenta instead of stopping to peel it off. In Dr. McNaughton's case it was immediately extruded through the wound.

The objection to peeling off and passing the hand through the membranes at one side of the placenta, as is usually advised, is that it takes more time and more blood is lost therefrom.

*(To Be Continued.)*

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*HISTORICAL DEPARTMENT.*

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TIMOTHY ANDERSON WADE, M.D.

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Little is known regarding the early history of Dr. Wade: he died in this city, April, 1866. His medical education was received at the Berkshire Medical Institution, graduating M.D. in 1843. He came to the city of Brooklyn in 1844, where he remained in the practice of medicine until his death.

From 1846 to 1850, he was Physician to the Brooklyn Dis-



pensary and from 1849 to 1859, Physician to the Kings County Penitentiary. Connecting himself with the Medical Society, County of Kings, in 1845, being Secretary in 1847, 1848, and 1849, Censor in 1849, and President in 1856. He was a delegate to the American Medical Association in 1855. He was a member of Plymouth Church from 1854 to 1866.

WILLIAM SCHROEDER, M.D.,  
*Secretary of Historical Committee.*

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## THE ASSISTANT PHYSICIANS OF KINGS COUNTY HOSPITAL.

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The following list of house-physicians of Kings County Hospital has been collated from the Annual Reports of the Commissioners of Charities and Correction, as published by them since 1854. These reports, with few exceptions, have been preserved by me and are now of great historic interest. It is impossible to collect them now, for even the commissioners do not possess a file of them, though Dr. Duryea, if we mistake not, has a collection of them at the Hospital.

Hence my solicitude to publish such historic facts concerning the County Hospital, and the men who have been connected with it, ere it is too late to gather the data.

While the *names* of those who have done service in the Hospital may be preserved, how little of their personal history we know! Where are they now? What have they achieved for our honored profession, and for the world? These are questions I cannot answer, except in a very few instances, but if all the Brooklyn Alumni would take the trouble to ransack their attics of memory, and displace the dust and cobwebs which time has gathered there, how many pleasant recollections of their former associates would be found! If in addition to this they would take the trouble to write down these memories and send them to the historian of the Association what a fund of interesting matter he would have to draw from.

1854.

DRS. J. L. ZABRISKIE, GEORGE AITCHISON, GOODLOE, BRYAN W.

WHITFIELD, DANIEL M. BURGESS, JOHN T. BELLAMY, AND BLEEK.

An extended notice of Dr. Zabriskie was published not long ago in this Journal to which we must refer the reader.

Dr. Burgess, after leaving the Hospital, was for some years surgeon on the old Collins' line of American Steamships. Tiring of this kind of life he settled in Havana, where he became Health Officer, and once filled a very conspicuous place in that city.

Dr. Bellamy was from the South, to which he returned after his service in the Hospital, and became a surgeon in the Confederate Army. Dr. Bleek was the son of Professor Bleek of the University of Bonn, Germany. After leaving the Hospital he settled in Brooklyn, but his life being dispaired of from repeated hemorrhages from the lungs, his friends made up a purse to send him home. He took passage in a sailing vessel, which was wrecked on the coast of New Foundland. The doctor, with the rest of the passengers, was picked up by a ship bound for South America, and in due time was landed in Brazil. Here he so far recovered his health that he resumed the practice of medicine, and became eminent.

1855.

DRS. HOMER L. BARTLETT, D. R. SIMMONS, AND JOHN B. PHILLIPS.

Dr. Simmons first settled in Williamsburgh, as it was then called, a most uninviting part of the city at that time, though it has greatly improved since. He had been there but a short time before he was solicited by the Missionary Board of the Dutch Church, through his pastor, the Rev. Dr. Porter, to go to Japan, as a medical missionary, which he finally did, in company with the Rev. Mr. Verbeck and the Rev. Mr. Brown. These missionaries were the first to enter Japan after that country was opened to foreigners.

Dr. Simmons won the natives at once by his pleasing manner and especially by his skill in curing the scabies, which was very prevalent among the people of all classes, and what seems singular to us, the native doctors did not know how to cure it. This brought him in contact with the officials and dignitaries of the government, with whom he became a great favorite, and was

largely consulted regarding the establishment of hospitals, dispensaries, and medical schools. He amassed a considerable fortune in Japan, and finally died there.

Dr. Phillips returned to Pennsylvania, his native State, and was appointed by Gov. Curtin, Surgeon-General of the State, which position he filled with great credit till the close of the Civil War.

1857.

SAMUEL GOURDINE, M.D.; B. F. GHENT, M.D.; WM. M. G. MACLURE, M.D.; JAS. FARLEY, M.D.; WM. MOREHEAD, M.D.

The only name on this staff which is recalled by the writer, is Dr. Jas. Farley. He was a nephew of the well-known Brooklyn divine, the Rev. Dr. Farley. He settled in Brooklyn, but was more noted as an elocutionist and lecturer than as a physician. He also took great interest in Freemasonry.

1858.

No house staff report of that year. Manual of the Common Council gives the following: Drs. Wilson Leighton, Charles W. Wickliff, William M. G. Maclure, Robert P. Alexander.

1859.

BENJ. F. CARPENTER, M.D.; ED. BRADLEY, M.D.; HARVEY F. CRAM, M.D.; CHAS. W. WICKLIFF, M.D.; N. W. LEIGHTON, M.D.

Dr. Carpenter was the son of Professor Carpenter of the Vermont Medical College, Burlington, where he returned after his hospital service, and where he still resides.

Dr. Leighton was an honored member of our Society, having lived and practised medicine in Brooklyn since he left the Hospital. He has also ever been an active member of the Physicians' Mutual Aid Association.

1860.

JOB CORBIN, M.D.; J. P. WYER, M.D.; F. E. POTTER, M.D.

Drs. Corbin and Potter both entered the navy and served their

country during the late rebellion with credit to themselves, and at the close of the war Corbin settled in Brooklyn, where he still resides.

1861.

EDGAR HOLDEN, M.D.; HENRY S. PITKIN, M.D.; C. I. S. WELLS, M.D.

Drs. Pitkin and Wells both entered the United States service, but what became of them after the war is unknown to the writer.

1862.

NELSON A. BALDWIN, M.D.; ALLEN A. MC CLURE, M.D.; A. MORTON RANSUM, M.D.; ELDRIDGE M. JOHNSON, M.D.

Dr. Baldwin was the son of the Rev. Mr. Baldwin, formerly pastor of the Dutch Church in Flatlands, L. I. After leaving the Hospital he settled in Brooklyn.

1863.

RICH. VAN KLEEK, M.D.; JOHN D. NICHOLS, M.D.; FRANK H. ROOF, M.D.; ALBERT H. DANIELS, M.D.

Dr. Van Kleek was the son of the Rev. Dr. Van Kleek, D.D., for many years principal of Erasmus Hall Academy. After leaving the Hospital the doctor settled in Gravesend, where he was much respected. He built up a lucrative practice and died much regretted. Dr. Roof was from Cooperstown, N. Y., but his history is unknown to me. Dr. Nichols died in the Hospital of typhus fever.

1864.

TUNIS SCHENCK, M.D.; BENJ. MALTBY PAGE, M.D.; PETER L. SCHENCK, M.D.; HENRY H. DAVIDSON, M.D.

The past hospital career of the Drs. Schenck has already been spoken of in a previous article. The history of Drs. Page and Davidson is unknown to the writer.

1865.

DRS. P. L. SCHENCK, D. H. FAIRWEATHER, ISAAC POOLE, CHAS S. SMITH.

1866.

DRS. L. H. HEMINWAY, E. W. BARTLETT, WM. B. HAZARD, C. F. CLARK.

Dr. Heminway became an Assistant Physician in the Lunatic Asylum. Clark settled in Brooklyn, and Hazard in St. Louis. Dr. Bartlett, who is a brother of the writer, went to Europe for two years after leaving the hospital, to study ophthalmology. On returning to this country he settled in Milwaukee, Wis., where he has successfully followed his special line of work. He is professor of ophthalmic surgery in the Milwaukee Medical College.

1867.

DRS. E. W. BARTLETT, J. A. BLANCHARD, J. E. BAUMAN, T. L. JANEWAY.

The subsequent history of Drs. Bauman and Janeway is unknown to the writer, but Dr. Blanchard was for several years connected with the Lunatic Asylum, first as Assistant and later as Medical Superintendent, and subsequently was made Superintendent to the Inebriate Asylum at Bay Ridge, where he died.

1868.

DRS. THOMAS L. JANEWAY, SAMUEL W. TORREY, S. J. BRADY.

Dr. Brady was from Williamsburgh, and was a brother of Dr. John A. Brady who this year was added to the consulting staff.

1869.

DRS. EDWARD S. PECK, FRANK W. ROCKWELL, AND RALPH E. STARKWEATHER.

Dr. Rockwell was a brilliant young man, and made for him-

self an enviable reputation in a short time. He opened an office in Lafayette avenue, and, had he lived, would have taken the foremost rank among Brooklyn physicians.

1870.

DRS. CARLOS F. MAC DONALD, ARCHIBALD CAMPBELL, STEWART CHURCH, GEORGE H. WHALEY.

Dr. MacDonald, after leaving the hospital, became an assistant physician at the Asylum, under Dr. Chapin. After the death of Dr. Chapin he was promoted to the position of Superintendent, and remained at the head of the medical staff for some years, doing good work for the county and making for himself a distinguished place as an alienist.

After leaving the Asylum he moved to New York, and was shortly made Commissioner in Lunacy of the State. This difficult position he filled with great credit for some years—and he is there often called as an expert in cases requiring great discrimination in mental disorders.

Dr. Campbell also became an assistant physician in the Asylum, and was for several years associated with Dr. MacDonald. Dr. Church is now a well-known practitioner of Brooklyn. Of Dr. Whaley we know nothing.

1871.

DRS. WALTER REED, JOHN S. WEBB, THOMAS R. FRENCH.

Dr. Walter Reed is a surgeon in the United States Army and resides in Washington, D. C. He has made considerable reputation as a bacteriologist.

Dr. Thomas R. French is a well-known and deservedly distinguished Brooklyn specialist.

Dr. Webb, unfortunately, died in the discharge of his duties, on March 5, 1872. Dr. Louis Schenck, his chief, says of him, in his annual report of that year: "His enthusiasm in professional matters, and his constant application to study, left no doubt in the minds of those associated with him that if his life had been spared he would ultimately have attained a high position in his chosen profession."

1872.

GEORGE P. COLLINS, M.D.; JOEL H. RIEGER, M.D.; GABRIEL R. DIAZ,  
M.D.; DON D. GROUT, M.D.

1873.

H. M. RACKLIFF, M.D.; T. B. WETTLING, M.D.; S. H. WARD, M.D.;  
J. V. D. VAN NEST, M.D.

1874.

H. F. WILLIAMS, M.D.; H. C. M'LEAN, M.D.; C. F. COOK, M.D.; CHAS.  
W. HANFORD, M.D.

Drs. Williams and McLean are still in the practice of medicine  
in this city.

1875.

WM. G. BUDDINGTON, M.D.; E. P. SMITH, M.D.; A. T. BRISTOW, M.D.;  
L. WILDER, M.D.

Of the above names only that of Dr. Bristow is familiar, and  
he is an honored member of our profession, especially in the de-  
partment of surgery.

1876.

C. E. FRITTS, M.D.; G. B. PRATT, M.D.; J. WILSON, M.D.; J. C.  
FISHER, M.D.

1877.

B. J. ADAMS, M.D.; R. J. STODDARD, M.D.; P. S. TAYLOR, M.D.; F. A.  
RICE, M.D.

1878.

J. P. COCHRAN, M.D.; E. W. DAVIS, M.D.; CHAS. W. CALHOON, M.D.;  
E. F. MORDOUGH, M.D.

1879.

C. E. DE LA VERGNE, M.D.; H. M. FRENCH, M.D.; N. C. B. HAVILAND,  
M.D.; J. G. WILKENMAN, M.D.

1880.

R. P. COLLINS, M.D.; H. L. COCHRAN, M.D.; H. W. NEVIN, M.D.; GEO.  
N. FERRIS, M.D.

Dr. Ferris was for some years connected with the Asylum both as assistant physician and medical superintendent, which position he resigned, much to the regret of the commissioners, and commenced private practice in his native village of Flatbush, where he still resides.

1881.

H. PLYMPTON, M.D.; A. T. TALMAGE, M.D.; A. W. BREWSTER, M.D.;  
FRANK LITTLE, M.D.

1882.

DRS. J. FRANK, JR., C. F. MC GUIRE, R. S. HOLMAN, E. J. CARROLL,  
AND N. P. SMITH.

1883. -

DRS. E. J. CARROLL, W. E. SNEDEN, T. L. WELLS, R. A. BLACK, AND  
THOMAS F. CLEARY.

1884.

DRS. A. W. FERRIS, G. W. KERR, JR., W. F. BETTS, R. D. YATES, AND  
J. W. INGALLS.

Dr. Yates, after leaving the Hospital, sailed on one of the  
Netherland-American S. S., and when a few days out, sickened  
and died of typhus fever, and his remains were buried at sea.

1885.

DRS. S. KEOGH, WILLIAMS, W. E. HARRIGAN, AND G. K. MEYNEU.



1886.

DRS. F. E. GUILD, L. H. MORTON, G. OSGOOD, JR., AND J. B. CAYWOOD.

Dr. Osgood became assistant physician in asylum. Dr. Caywood died in the hospital of acute rheumatism.

1887.

DRS. A. E. BURNS, H. O. SMITH, J. M. SEMPLE, J. MC CROSKERY.

1888.

DRS. J. MC CROSKERY, G. F. LLOYD, E. MC HALEY, L. A. MC ALPIN,  
W. A. KEELEY.

1889.

DRS. WALTER S. TRACY, JESSE T. DURYEA, CHAS. H. EARLE, AND  
EDWARD K. PARMELEE.

Of these Dr. Duryea is the only one known to the writer. He has worthily filled every position in the Hospital, from assistant physician to the head of the Hospital staff, where he now presides.

1890.

DRS. ALBERT C. BISHOP, E. J. SMITH, HALLECK R. MAINE, AND  
HENRY J. GOUBEAUD.

1891.

DRS. W. E. CARROLL, G. W. CONTERNO, AND U. L. WASHBURN.

Dr. Osgood commenced private practice at Rockland, Mass. Dr. Lloyd was killed this year in the asylum by a crank.

1892.

DRS. E. J. GILLETTE, JOHN C. MC GUIRE, SAM'L. G. ARMOR, DEYO P.  
MATHEWSON, T. J. FLYNN, WILBUR H. SEYMOUR, F. W. CURTIS,  
AND H. J. KNAPP.

1893.

DRS. CHAS. MAUSER, H. T. RHODES, E. H. MAYNE, FRED. T. KOLLE,  
M. T. LEWIS, E. S. THOMSON, ALFRED S. AMBLER, FRED'K S.  
HALLETT.

The only member of this house staff known to the writer, is Dr. Mayne, who has settled at Bath Beach, and is a rising man. This year the entire Hospital staff was reorganized. Formerly the house staff consisted of three or four physicians. Lately it has been increased to eight, and a visiting staff and assisting visiting staff added to the consulting staff.

1894.

DRS. DAVID R. LEWIS, FREDERICK LAMBERT, JOHN B. ZABRISKIE,  
JOHN TIEDEMAN, OLIVER H. JACKSON, JAS. A. MITCHELL, JOHN  
E. DALTON, FRANKLIN WELKER.

Dr. Zabriskie has taken the practice of his father in his native village of Flatbush.

1895.

JNO. R. STEVENS, M.D.; STEPHEN C. PETTIT, M.D.; C. OTTO STUMPF,  
M.D.; DAN'L. R. STRATTON, M.D.; W. E. RICHARDSON, M.D.;  
STUART W. NELSON, M.D.; JAS. R. TODD, M.D.; WOODBRIDGE O.  
JOHNSON, M.D.

Dr. Stumpf after leaving the Hospital became resident physician at the Penitentiary and subsequently went into private practice in New Jersey.

Dr. Nelson was promoted to the position of assistant medical superintendent of the Hospital, and later, on account of impaired health, returned to his native place in Middletown, N. Y.

1896.

MARK MANLEY, M.D.; W. P. READ, M.D.; W. O. JOHNSON, M.D.; GEO.

BARNES, M.D. ; J. P. MC QUILLIAN, M.D. ; B. D. HARRINGTON, M.D. ;  
EDGAR H. FARR, M.D.

Dr. Harrington was promoted to the position of assistant medical superintendent and at the close of his term settled in Flatbush, where he still resides.

1897.

C. R. LOVE, M.D. ; E. G. ZABRISKIE, M.D. ; J. J. WAGNER, M.D. ; F. S. KELLOGG, M.D. ; D. L. MARRISON, M.D. ; H. H. SMITH, M.D. ; P. J. YORK, M.D. ; L. EMMERSON, M.D. ; J. D. RICHARDS, M.D.

Dr. E. G. Zabriskie is still pursuing his medical studies in Germany. This finishes the record as far as it can be obtained from the commission's report, as none has been issued since 1897, and we understand no more are to be printed. We are aware that this historic sketch of the various house staffs of the Kings County Hospital is very incomplete, comprising as it does between two and three hundred names. Still it may serve as a key for some future historian to work with and if he can succeed in unlocking the lips of the Brooklyn Alumni many very interesting facts might be gleaned.

HOMER L. BARTLETT,  
*Chairman Historical Committee.*

#### THE DR. JOHN LLOYD ZABRISKIE MEMORIAL FUND.

This our first permanent endowment, amounting to \$2000, has been paid over to the Society. It is given by Mrs. Zabriskie, in honor of her husband, long one of our active members, and represents the largest and most important individual gift that the Society has ever received. The conditions accompanying it provide that only the income can be used ; this is to be employed exclusively for the purchase of journals and books and binding of same. By this means it will be possible to secure certain important journals not heretofore on our list, and thus add materially to the value of our Reading-Room and Library. This is a form of "expansion" that meets with general approval and appreciation.

## MISCELLANEOUS.

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### THE COUNTRY DOCTOR.

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The Arlington Chemical Co. of Yonkers, N. Y., has purchased the picture of "The Country Doctor," by Mr. W. Granville Smith, which has been displayed at the National Academy exhibitions. It is a vivid portrayal of a familiar episode—a furious winter night tempest, a long struggle through drift and storm at duty's call, an exhausted old doctor struggling wearily forward, a fatigued horse shrinking in the blinding snow-blasts, an anxious mother eagerly waiting the longed-for relief. From the porch of her humble country home she peers eagerly out into the storm. The lantern she holds above her head cuts a feeble path of light through the gloom, along which the doctor plows his way to shelter.

It was exhibited at the Columbus meeting, and it is the intention of its present owners to exhibit it at the various assemblies of physicians held throughout the country. On application a copy will be sent to any member of the profession, provided 10 cents is forwarded for mailing expenses.

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### SURGEON-GENERAL OF THE UNITED STATES ARMY.

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The following preamble and resolutions have been adopted by the Medical Association of Georgia :

*Whereas*, The position of the Surgeon-General of the United States Army involves great and grave responsibility, the direction of vast interest, the highest order of professional skill and learning, and executive ability, and,

*Whereas*, the number of officers and soldiers under the direction of the Surgeon-General in an army organized as is the army

of the United States is greater than the command of a division commander, be it

*Resolved*, By the Medical Association of Georgia that it is the sense of this body that the Surgeon-General of the Army have the rank, pay, and allowances of a Major-General.

*Resolved*, That the Medical Association of Georgia requests all the medical societies of the United States to join in this appeal.

*Resolved*, By the Medical Association of Georgia, that copies of these resolutions be transmitted to the President of the United States, the Honorable Secretary of War, and our Senators and Representatives in Congress, with the request that all cooperate in attaining the end sought; and, further, that copies be also sent to the American Medical Association, and all other medical societies in the United States, with the request that they join in this memorial to Congress and urge prompt action upon this subject by our National legislative authorities.

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### SURGICAL INSTRUMENTS NOT DUTIABLE.

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An important decision was handed down by Judge Colt of the United States Circuit Court recently, reversing the decision of the Board of Appraisers which held that surgical instruments imported to this country were dutiable. The Court holds that the instruments are not dutiable, being "scientific instruments" within the meaning of the law.

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### NEW BOOKS AND BOOK NOTICES.

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*All books received by the JOURNAL are deposited permanently in the Library of the Medical Society of the County of Kings.*

**BICYCLING: HINTS AND ADVICE TO MEN AND WOMEN, FROM THE PHYSICIAN'S STANDPOINT.** By Victor Neesen, M.D. Assistant to the Chair of Gynecology, Long Island College Hospital, etc. Illustrations and Appendix. New Amsterdam Book Company, New York. Pp. 106.

Dr. Nee-en has given the wheeling public a very readable book, and in the main one that will be read with profit. We think the Doctor understates the gears which are in use at the present time. He says: "The customary gear for men is from 64 to 70." We doubt whether he will find

many cyclists using such low gear. Indeed, after considerable experience we have adopted 77 as being about right. One gets over the ground with less effort, and even in hill-climbing the difference between 70 and 77 is not marked.

We must also differ from him as to brakes. He says they are "an abomination, and should never be used." While this may be in a sense true, still there are times when for the average rider the brake will prove a great boon. There are riders who have not the physical strength and weight requisite to back-pedal in descending even moderate hills, and if they must dismount in making the descent, they will in some localities do a good deal of walking and deprive themselves of much enjoyment. Of course in the city a brake is not essential, but even there it is, like a revolver, a good thing to have in an emergency. In the country it is, we think, a necessity.

**A PRACTICAL HANDBOOK ON THE MUSCULAR ANOMALIES OF THE EYE.** By Howard F. Hansell, A.M., M.D., Clinical Professor of Ophthalmology, Jefferson Medical College; Professor of Diseases of the Eye, Philadelphia Polyclinic and College for Graduates in Medicine; Consulting Ophthalmologist to the Chester County Hospital; Ophthalmologist to Frederick Douglas Memorial Hospital; Member American Ophthalmological Society; Fellow College of Physicians of Philadelphia, etc.; and Wendell Reber, M.D., Instructor in Ophthalmology, Philadelphia Polyclinic and College for Graduates in Medicine; one of the Ophthalmologists to the Methodist Episcopal Orphanage. 28 illustrations and 1 plate. Price, \$1.50. P. Blakiston's Son & Co, 1012 Walnut street, Philadelphia. 1899.

The chapter on diagnosis and treatment of paralysis of the ocular muscles will be read with interest not only by the ophthalmologists, but also by neurologists and general practitioners, because these paralyzes are many times caused by diseases which the family doctor is called upon to treat.

Special emphasis is laid upon the fact that errors of refraction are very frequently the sole cause of the insufficiency of the ocular muscles and when the ametropia is corrected the trouble is relieved without resorting to tenotomies. The work gives evidence of much research and patient investigation on the part of the authors, and though conservative, they are "up to date," in every particular. Great care has been taken in the proof-reading, only one or two slight errors noticed. The book is worthy a careful perusal.

JAMES W. INGALLS.

**OCULAR THERAPEUTICS FOR PHYSICIANS AND STUDENTS.** By F. W. Max Ohlemann, M.D. (Minden, Germany), late Assistant Physician in the Ophthalmological Clinical Institute of the Royal Prussian Institute of Berlin, etc. Translated and edited

by Charles A. Oliver, A.M., M.D. (Univ. Pa.), one of the Attending Surgeons to the Wills' Eye Hospital; one of the Ophthalmic Surgeons to the Philadelphia Hospital, etc. Price, \$1.75. P. Blakiston's Son & Co., 1012 Walnut street, Philadelphia. 1899.

The author and the editor are to be congratulated for having brought together so many formulas in such a neat and compact form. However, it is to be regretted that the statement made, in the second paragraph, p. 34, is not more definite. The reader is left in doubt regarding the meaning of "the first two materials" and "the last." On p. 116, Hirschberg is quoted as giving an easily remembered rule for use in conjunctivitis: "One-half of a gram (grs. vij) strength of nitrate of silver to one cubic centimeter (f 3j) [sic] of distilled water." Doubtless, if this strength were used in the eye, it would be "easily remembered for a long time—by the patient.

JAMES W. INGALLS.

A COMPEND OF PHYSIOLOGY. By Albert P. Brubaker, A.M., M.D., Adjunct Professor of Physiology and Hygiene in the Jefferson Medical College, etc. Ninth edition, revised and enlarged, with illustrations, and a table of physiologic constants. Pp. 266. Price, 80 cents. P. Blakiston's Son & Co., Philadelphia. 1899.

Although some portions of this compend bear evidence of changes which keep it up to date, there are others which have evidently not received this careful treatment. This is notably so in the section which is devoted to "Reproduction." The relation between ovulation and menstruation is stated as it was regarded to be a decade ago, and no mention made of the present opinions of the best authorities. Other oversights in the revision might be pointed out.

DIAGNOSIS BY THE URINE; or, the Practical Examination of the Urine with Special Reference to Diagnosis. By Allard Menninger, M.D., Professor of Chemistry, Urinology, and Hygiene in the Medical College of the State of South Carolina. Second edition, revised and enlarged, with illustrations. Pp. 124. Price, \$1.00. P. Blakiston's Son & Co., Philadelphia, 1899.

The principal addition to be found in this edition is the chapter on the "Differential Diagnosis of Chronic Bright's Disease, as Based on a Classification of the Normal, the Absolute, and the Relative Absolute of Solids and Urea." We note, also, remarks on the different kinds of tube-casts and their significance.

PRACTICAL DIAGNOSIS. The Use of Symptoms in the Diagnosis of Disease. By Hobart Amory Hare, M.D., Professor

of Therapeutics and Materia Medica in the Jefferson Medical College of Philadelphia. Third edition, enlarged and thoroughly revised. In one octavo volume of 615 pages, with 204 engravings and 13 full-page colored plates. Cloth, \$4.75. *net.* Lea Brothers & Co., Publishers, Philadelphia and New York.

This book is intended as a guide in bedside practice, so states the author. It is an attempt to reverse the process followed in the ordinary treatise. We have very grave doubts about the necessity for such an attempt. The systematic works to-day drill the student in logical arrangement of facts. Let us examine their description of the disease known as croupous pneumonia, and compare it with that given in the present work, and so mark the difference in method. We find, first, the definition, then the pathological conditions presented by the lungs and other organs as a consequence of the disease; next the cause is discussed. With this picture before the mind, we are prepared for the clinical history which follows. The symptoms, as they are given in their natural order, confirm the condition before narrated, and they lead us to the diagnosis. The differential diagnosis, which follows, is occupied with a vivid picture of points of resemblance, which occur in connection with other diseases. Then we have the prognosis and treatment. The present work opens the subject with a paragraph headed pneumonia. We are at the bedside, mind you, and we have before us a book which states that the discovery of any marked symptom will lead directly to the diagnosis. But we have started out with an assumption already in the caption of a division which attempts to give the same picture we found in the systematic work, but in a much more condensed form. The real difference between the two treatises is that one gives us the full history, the other its clinical aspects alone.

We acknowledge that it is a valuable and careful collection of symptoms of diseased organs, as the clinician meets them in his daily walks. Its value is enhanced by numerous illustrations. It will serve the purpose of a work of reference. But it presupposes a knowledge of the pathological states. It will not enable the every-day observer to make a diagnosis, as one would judge from reading the preface. It, in short, is a mixture of philosophical, or imperfect, induction and the deductive method. It is a laudable attempt to aid the practitioner, but must confuse the student if he keeps to it too closely.

We congratulate the author on the large demand for the work. It is a deserved reward for industry. We can say, with all truth, that few men in the profession have labored more diligently than he.

**TEXT-BOOK OF MEDICAL JURISPRUDENCE AND TOXICOLOGY.** By John J. Reese, M.D. Revised by Henry Leffmann, A.M., M.D., Ph.D. Fifth edition. Cloth. \$3.00. Published by P. Blakiston's Son & Co., Philadelphia.

This well-known work comes to us after a fifth revision. It still keeps in view the purpose with which it was first undertaken, viz.: to



furnish a text-book to the student and a reference-work to the general practitioner in medicine and law. It is a handy volume, containing the essentials of the science.

**PROGRESSIVE MEDICINE.** A Quarterly Digest of Advances, Discoveries, and Improvements in the Medical and Surgical Sciences. Edited by Hobart A. Hare, M.D. Lea Brothers & Co., Philadelphia. 1899.

This volume contains personal narratives of medical and surgical advance during the year. The list of contributors is made up of the names of masters of various specialties, which assure the value of the work immediately. The style of writing adopted is delightful, having the true narrative ring—you may say it is seductive. We have found the early light of morn warning us of the fact on two occasions when we communed with this entertaining production. It is impossible to attempt a review of the work. We can simply place on record our commendation of it, and that we do most heartily.

**SAUNDERS' POCKET MEDICAL FORMULARY.** By Wm. M. Powell, M.D. Fifth edition. Price, \$1.75.

This is the most complete work of its kind we have seen. The appendix contains posological table; formulæ and doses for hypodermic medication; poisons and their antidotes; diameters of the female pelvis and fetal head; obstetrical table; diet-list for various diseases; materials and drugs used in antiseptic surgery; treatment of asphyxia from drowning; surgical remembrances; tables of incompatibles, eruptive fevers; weights and measures, etc.

**THE POCKET FORMULARY FOR THE TREATMENT OF DISEASES OF CHILDREN.** By Ludwig Freyberger, M.D., Vienna. The Rebman Publishing Co., London.

This is a very valuable little book, showing the dose of drugs to be employed in the treatment of young children. The knowledge on this subject appears to be not very extensive in some quarters.

One's pocket will be well loaded down if it is made to hold all that is prepared for it.

2021



**KING'S COUNTY HOSPITAL, FLATBUSH, L. I.**

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JAMES WOOD, M.D.

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# THE BROOKLYN MEDICAL JOURNAL

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## ORIGINAL ARTICLES.

No paper published or to be published elsewhere as original will be accepted in this department.

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## PREVENTION AND MODERN TREATMENT OF TUBERCULOSIS.

BY GEO. W. BRUSH, M.D.

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At the last session of the Legislature of this State, a special Senate Committee of three was appointed to inquire into the advisability of establishing a State Hospital in the Adirondacks for the treatment of those afflicted with pulmonary tuberculosis. Some of the facts which I shall present in this paper, are quotations from that report which, as chairman of the committee, it became my duty to prepare and if any are stimulated by what I may say here to examine the report, it may be obtained of your representative in the Legislature.

We are alive as a people to dangers which threaten us in violent or dramatic forms, but those which steal upon us like a thief in the night, which present themselves by slow and insidious methods of approach, are not recognized until they threaten the very foundations of our physical, political, and social life. While the watchmen sleep the city is taken.

I should feel that I owed this Society an apology for presenting

a subject upon which so much has been written recently, were it not for the fact that so much remains to be done to awaken and instruct the people as to the necessary part they must act to protect themselves and the community from the enormous annual death-rate from tuberculosis.

I am even obliged to think that my fellow-members of the medical profession are not fully alive to the fearful facts respecting the ravages of this disease and how unnecessary much of the suffering and loss from it is.

The writer had a general knowledge on this subject, and of what was being done with reference to the disease; he knew of the change of views in medical circles as to the cause and prevention of the disease within the last generation, and especially within the last fifteen years since the great discovery of Koch, but it was not until, as chairman of the Senate Special Committee above named, when he was called upon to give a somewhat close and special study of the subject, that his eyes were opened to the appalling facts, and the discovery that so little was being done to stay the ravages of the disease, either by the State or by private enterprise.

If the deaths in this city each year by smallpox, yellow fever, or cholera were from seven to eight thousand, there would be great excitement, and a general uprising of the people; our medical societies would have special committees appointed, and there would be citizens' committees and every effort made to protect the people; every known remedy would be applied, and every law and ordinance upon the subject would be enforced; special hospitals would be opened and no effort spared to adopt every measure which science and experience had shown to be efficacious in preventing or curing the disease.

Tuberculosis, according to the best evidence obtainable, causes an average annual death-rate in the Greater City, of nearly eight thousand persons. In 1896 there were nearly six thousand deaths from this cause in the Borough of Manhattan alone, and yet there is not a single public hospital for the treatment of this disease, in this city, nor even in the State of New York to-day.

The general public hospitals refuse to take cases of tubercular consumption if they can avoid it.

A physician informed me a few days ago, that within a month he had tried to get three cases into our public hospitals and was refused in five of them, because of the recognized infectious character of such cases. It seems absurd to any one who has given any study to this subject to present any facts or arguments to

show that consumption is an infectious disease, but I venture to trespass upon your time for a few moments by quoting from some of the more recent writers on this subject. There are two recognized methods of contracting tuberculosis—one from the air we breathe, and the other from the food we eat. Let us give a few moments to the first of these. According to the expressed opinions of the ablest specialists of the present day, tubercle bacilli in enormous quantities are thrown off each day by the expectorations of consumptives. When it is remembered that the majority of consumptives are not confined to the house and to their bed until the last few weeks of the disease, and that they therefore walk upon our streets, ride in our public conveyances, and deposit their expectorations wherever they go, you can readily see that, with more than fifteen thousand of these cases in our city, we are facing a daily danger. It is true that all who breathe these germs do not contract consumption. It is a well-known fact that not all who are exposed to infectious or contagious diseases contract it, but no one can tell when the system is in that receptive condition which will develop it.

The expectorations of these consumptives in our midst become dried and mixed with the dust, and float in the air.

In the testimony taken by the Senate Special Committee before referred to, of the fourteen specialists and eminent physicians who gave their opinions, they were unanimous in their belief that tuberculosis was an infectious and communicable disease.

In answer to the question, "Do you believe pulmonary tuberculosis to be an infectious disease?" the answer was almost invariably an unqualified "Yes."

The best authorities now look upon tubercular consumption as a curable disease, but also recognize it as an infectious and communicable one. In January, 1897, the New York City Board of Health adopted the following amendment to its sanitary code:

"Section 225. That pulmonary tuberculosis is hereby declared to be an infectious and communicable disease, dangerous to the public health. It should be the duty of every physician in this city to report to the Sanitary Bureau, in writing, the name, age, sex, occupation, and address of every person having such disease who has been attended by or has come under the observation of such physician for the first time within one week of such time. It shall also be the duty of the commissioners, or managers, or the principal superintendent or physician of each and every public or private institution or dispensary in this city to report to the



Sanitary Bureau in writing, or to cause such report to be made by some proper and competent person, the name, age, sex, occupation, and last address of every person afflicted with this disease who is in their care, or who has come under their observation, within one week of such time. It shall be the duty of every person sick with this disease, and of every person in attendance upon any one sick with this disease, and of the authorities of public and private institutions or dispensaries to observe and enforce all the sanitary rules and regulations of the Board of Health for preventing the spread of pulmonary tuberculosis."

#### HOW THE DISEASE IS PROPAGATED.

The Annual Report of the New York Board of Health for 1897 contains the following circular, which was promulgated in 1896.:

"Tuberculosis results from the reception into a susceptible system of tubercle bacilli. They are usually drawn in with the air inspired, and find lodgment in some portion of the respiratory passages, and by their growth, set up an inflammation which becomes evident in the formation of new tissues, the so-called tubercle. The inflammatory changes are usually at first slight and the effects entirely local. Moreover, in this early stage there is a marked tendency to a localization and restriction of the process and to an entire recovery. Many persons get well untreated. In such cases the tubercles are gradually replaced by fibrous tissues and the bacilli die or are rendered harmless. At this time, *i. e.*, when a person has tuberculosis, but when the disease is confined to a small sharply circumscribed area, there is the best opportunity for successful treatment. On the other hand, in a large percentage of unrecognized and neglected cases, recovery does not take place, but the tubercular process extends; new tubercles form, the old ones become necrotic, and there is a coalescence of separate foci of infection, forming larger areas of disease, till a great part of one or both lungs is affected. At the same time the bacilli in their growth form poisons, which are absorbed by the system, and in the diseased or necrotic tissues other bacteria are deposited, producing the so-called mixed infection.

"Emphasis should be laid upon the following clearly demonstrated facts:

"1. Incipient tuberculosis tends to recovery.

"2. Advanced tuberculosis, with or without mixed infection, tends to a fatal issue.

"3. In all coughs which last more than a few weeks, tuberculosis is to be suspected as a cause.

"4. Successful treatment and prophylaxis demand the earliest possible diagnosis."

It is shown also that this disease, like many others, finds its most fertile soil in the over-crowded and dusty tenements and factories of our large cities, where the conditions are such as to almost entirely preclude the possibility of isolation and protection, and where the ignorance and poverty of the majority emphasizes anew the proverb that "the destruction of the poor is their poverty." The more dense the population the greater the deaths from tuberculosis. Persons who live in dusty and crowded districts and whose occupation confines them indoors are more liable to contract consumption. Quarrymen, who constantly inhale dust owing to their occupation, are very liable to contract it, as for example, Swiss statistics show a mortality of 10 per cent. among these men from tuberculosis. Students and clergymen, who lead sedentary lives, according to English statistics, show a mortality of 459 deaths per 1000; and lithographers in Italy have a mortality of 300 to 400 per 1000 deaths.

Those who live in the open air constantly have an almost complete immunity from consumption. Some of the reasons for this are startlingly shown when it is remembered what has been said about the presence of the germs of this disease in the dust-laden air breathed by those in the thickly populated districts. Dr. George A. Evans, in a paper read before the Kings County Medical Society in 1894, gives the result of some experiments made by Dr. George F. Nutall, of Johns Hopkins University, that in the sputum of three cases undergoing the Koch treatment the number of bacilli expectorated in the first case in twenty-four hours was 2,000,000,000, in the second case the number varied between 20,000,000 and 165,000,000 on the days preceding the Koch inoculations. In another case not undergoing the Koch treatment the number of bacilli varied between 300,000,000 and 4,000,000,000. According to Bolinger, one cubic centimeter of phthisical sputum contains from 810,000 to 960,000 bacilli; the average consumptive therefore expectorates between thirty and forty million of these parasites a day. These expectorations on the street or in public conveyances—becoming dried, float in the air; and when we consider the thousands of consumptives who

are carelessly scattering these germs in our large cities, estimated to be over 15,000 in New York City alone, we have an object-lesson which calls for active and strenuous protective measures. In this connection, the following is instructive from the same source. In a large business house in the center of Paris twenty-two persons were employed about eight hours a day; one of them, aged forty, had been phthisical for three years when he died. He coughed and spat upon the floor for these years, and did not leave his work until three months before his death. Within the ten years following, of the twenty persons employed, fifteen had died, *fourteen* from tuberculosis.

The above emphasizes the danger of the common and filthy habit of spitting upon the floors of public conveyances and in the public streets; the expectorated matter is caught up by the dragging skirts of women, or, becoming dry, mixes with the dust and floats in the atmosphere, and, being inhaled, may infect a person whose system is in a receptive condition.

An encouraging sign is the attempt to stop this unnecessary habit of expectorating in public conveyances by circulars, which have recently been issued and are posted in prominent places in the street-cars. Every effort should be made to stop this most disgusting and dangerous habit.

"In this connection, Cornet (*Zeitschrift f. Hyg.*, Vol. V., 1888) has chiefly studied the dust, and his article is so well-known that it is only necessary to state here that out of 311 trials with the dust and dirt from places occupied by consumptives, 59 gave positive results; 77 trials made with the dust of other places were negative. Many other experimenters since Cornet have confirmed his observations. Reinbold (*Central-bl. f. Bact. u. Parasit.*, Vol. II., p. 199) and others have found tubercle bacilli in the air of infected rooms. Spillman (*Compt. Rendu.*, CV., p. 352, '97) and Hoffman (*Central-bl. f. Bact. u. Parasit.*, Vol. IV., p. 269) have found that flies carry the germs in their intestines and deposit it in their droppings, and Hoffman, in one case out of four, found the bacilli in the intestines of flies virulent when inoculated into the eyes of rabbits. Stone (*Amer. Jour. Med. Sci.*, March, 1891) has shown that the tubercle bacilli may be virulent in sputa after three years, during the last two of which it has been in the state of absolute dryness. Cadeac and Mallet (*Congrès pour l' Etude de la Tuberculose*) found that the lungs of tuberculous cattle, dried and powdered, and then exposed to the air of a room, were virulent at the end of 102 days. A piece the size of the fist,

dried and exposed to the air, infected at the end of 150 days; a similar piece buried in a 3-liter cask filled with sand was virulent after 159 days; also pieces in a flask of water exposed to sunlight for 120 days, and others in running water for one month were virulent (quoted by Jaffries, *Boston Med. and Surg. Jour.*, Sept. 3, 1891).

"Straus (*Revue de la Tuberculose*, p. 198, 1896) has found tubercle bacilli in the nasal cavities of healthy persons exposed to infected areas. In twenty-nine healthy individuals remaining in consumptive wards of a hospital for a greater or less period of time, nine were found to have virulent bacilli in their nostrils. About one-fourth of all cases examined contained tubercle bacilli in the nasal cavities. This observation of Straus has also been confirmed by others, as regards the nose. Lermoye, Dieulafoy, etc., have found tubercle bacilli in the throats of healthy individuals exposed to infection.

"Since the investigation of Villemin, Koch, Cornet, and others it is generally acknowledged that the dried sputum of consumptives contained in the dust of infected areas is the chief source of tubercular infection. The common cause of the disease in man, namely, pulmonary consumption, would seem to indicate that, for the most part, infection was brought about by inhalation. These experiments now show, first, that virulent tubercle bacilli may penetrate and become lodged in the nasal cavities and throats of healthy individuals, when exposed to contact for any length of time to tuberculous patients, as in infected rooms or hospital wards; second, they demonstrate how numerous these germs are in the atmosphere of such places inhabited by consumptives; and third, they prove that the common mode of communicating the disease is by the respiratory tract." (New York City Board of Health report, 1897.) Sir William Broadbent, M.D., one of the most eminent physicians in England, in a recent lecture, says, "Dust and milk are the chief agents for the communication of consumption. To render them innocuous we must destroy the sputa of consumptives so that the germs will not dry and get into the dust, and we must boil the milk or sterilize it, and then look to the covering of it."

Let us glance for a moment at the second method of conveying tuberculosis to the human subject. That is, through the medium of the food we take to nourish and sustain our bodies. If there is any one subject upon which there should be the most stringent laws, it is that of restricting or prohibiting the sale of adulterated

or diseased food. And yet a prominent veterinarian informed me a few days ago that he had, in pursuance of his professional work, only a short time before, examined a number of the cows that were furnishing the milk-supply of this city, and over 75 per cent. showed symptoms of tubercular infection. Let us consider the following in the light of this statement.

The report of the State Board of Health of this State for 1894, Vol. II., page 6, says: "The discovery that tuberculosis in the bovine and consumption or phthisis in man are kindred affections signalized an important advance and suggested the inquiry as to the rôle that the bovine plays in the spread of the disease. The extent to which milk as an article of food is used by all classes from infants to adults rendered it certain that if, as was conceded, the disease was contracted through specific germs entering the system, and if that germ was contained in the milk-supply, there was great danger that the parties consuming this infected milk would take the disease. Bacteriological examination of specimens determined this point. The germ was found in the milk, and a new and extended propagating center thus revealed." Again, on page 7: "The progress of bacteriology has cleared up many ambiguous points, the germ of tuberculosis has been isolated, detected in milk from tuberculous cows, and the characteristic lesions found on autopsy. There can no longer be reasonable doubt that tuberculous cattle are extensively distributed through the dairies of the State, forming centers of infection in their respective herds, that the milk from such cattle is bad and in many cases contains the germs of disease which, though not acting perniciously upon all who partake of it, is still sufficiently dangerous to warrant as earnest precautions and as effective prophylactic measures as in the case of smallpox, typhoid, and cholera." The report of the same board for the year 1897, says (page 617):

"If man can be protected from tuberculous meat and milk and the sputum of consumptive individuals can be properly disposed of, or at once destroyed when discharged, the danger of the transmission of the disease from animals to men, and from man to man can be greatly diminished. Measures looking to this end are being put into force all over the world by intelligent sanitary authorities. While the existence of tuberculosis in cattle has been known for a long time, it is only recently that we have learned how frequent it is."

It is to the credit of the Board of Health of this State that having found out the dangers lurking in the food-supply furnished

by our cattle, they have taken energetic measures to stay the progress of the disease, and laws have been enacted empowering the board to destroy tuberculous cattle wherever found, making a reasonable compensation to the owners in such cases. The extent of this work has been limited only by the meager appropriations which have hitherto been available for this purpose. There should be a more liberal appropriation made for this purpose and every encouragement given to this important work of our State Board of Health, and thus limit or entirely eliminate a great source of danger to our citizens.

In order to find out what other States are doing in the matter of prevention of this disease through their various boards of health, the writer addressed a letter of inquiry to the president of the boards of health in our large cities. Replies have been received from many of these indicating that they are alive to the importance of this subject and are actively engaged in disseminating knowledge among the people as to its cause and the measures to be adopted for its prevention. The City of Boston has endorsed the following circular promulgated by the Massachusetts State Board of Health:

#### THE PREVENTION OF CONSUMPTION.

"Consumption is the most destructive disease of New England, the number of persons dying annually from this cause in Massachusetts amounting to nearly 6000. The disease is infectious, and can be communicated from one person to another. The chief danger exists in the expectoration of the sick, and if this expectoration is carefully destroyed little danger need be feared. Consumptives should be instructed not to spit upon the floor of rooms, public halls, street and railway-cars, and other vehicles, nor in the street, but into pieces of cloths, or receptacles made for the purpose, containing water, or a saturated solution of carbolic acid. (One part of carbolic-acid crystals to about fifteen parts of water.) Such bits of cloth should be destroyed by fire before the sputum becomes dry, and other receptacles should be cleansed with scalding water, their contents having been destroyed or otherwise carefully disposed of. Handkerchiefs which may have been used from necessity should be boiled half an hour before washing. A healthy person should not sleep in the same room with a consumptive. Remember that sputa must never be allowed to become dry."

The Board of Health of the City of Buffalo has issued a circular of "Information for Consumptives and those living with them," in which the principal features of the Boston circular are repeated. They have in addition put this disease upon the list of those to be reported and thereupon send a circular of instructions to the family or those in charge of the patient. There is also furnished to the physicians a blank for the purpose of making this report, with request to furnish specimens of sputa for microscopic examination by the Bureau of Bacteriology, with the view of confirming the diagnosis.

The Health Commissioner of the City of St. Louis in his last annual report says, on the subject of prevention of the spread of this disease, that the following measures should be adopted:

"1. Protection of the public against tuberculous meat and milk obtained by a rigid inspection of cattle.

"2. The dissemination among the people of the knowledge that every tuberculous person may be a source of actual danger to his associates if the discharges from his lungs are not immediately destroyed or rendered harmless.

"3. Careful disinfection of rooms and hospital wards that are occupied or have been occupied by consumptives."

He concludes with the following recommendation:

"I therefore recommend that in order to enable this department to battle successfully with this desperate malady the Municipal Assembly be urged to pass a bill declaring pulmonary tuberculosis an infectious and communicable disease, dangerous to the public health, and one that should be classed among the contagious diseases."

The City of New Orleans furnishes to physicians the facilities for sending suspected sputum to their bacteriological laboratory for examination for diagnostic purposes. In addition the city authorities have passed an ordinance prohibiting spitting in the street-cars.

The Pennsylvania Society for the Prevention of Tuberculosis (a philanthropic society) has issued tracts to the people giving them information and instruction on this subject.

In their annual report for 1896, they say:

"It is the aim of this society that protection and relief may be provided for both rich and poor, also that a distressing although not necessarily hopeless disease may be stamped out by patient endeavor. It is one of the most distressing aspects of our modern civilization that thousands of consumptives are still permitted to

die, inch by inch, through many months with insufficient attention, a source of great danger to their helpless families, and even to the community at large."

This report also takes up the subject from the standpoint of the communication of this disease through the medium of the food. It says: "Recognizing that the consumption of meat and milk from tuberculous animals is one of the frequent sources and modes of tuberculous infection of the human being, especially of bottle-fed infants and children of tender age, the Pennsylvania Society decided to urge upon the Legislature of the State the necessity of the early enactment of laws to secure the exclusion of the meat and milk of tuberculous animals from this Commonwealth. Under these laws about 500 living cattle and a large number of fresh carcasses have been condemned as unfit for the dairy and the market.

"June 1, 1895, a new law, establishing a State Live Stock Sanitary Board, went into effect. This Board is composed of the Governor, the Secretary of Agriculture, and the State Veterinarian. To administer this law an appropriation of \$50,000 will be at the disposal of the Live Stock Sanitary Board during the next two years for dealing with the various contagious and infectious diseases, and for the first time in the history of Pennsylvania there will be a conservative and systematic plan of dealing with these diseases." Vigorous efforts have recently been made in Pennsylvania to establish a municipal hospital in Philadelphia for the tuberculous poor, and the State Legislature has been urged to take action toward establishing a State Hospital.

The State Board of Charities of the State has recommended a liberal appropriation to this end.

The ratio of deaths has materially decreased in Pennsylvania since 1880, when intelligent efforts were made to inform the citizens how to protect themselves from the disease.

342 deaths occurred in 100,000 of population in 1870.

317 deaths occurred in 100,000 of population in 1880.

246 deaths occurred in 100,000 of population in 1890.

220 deaths occurred in 100,000 of population in 1894.

Other States through their Legislatures have placed upon the statute books laws upon this subject with the view to preventing the spread of consumption. California has good laws, and the following extracts are from a letter received from John M. Williamson, M.D., chairman Committee of Health Office and Health Department of San Francisco, Cal.:



"In the city and county hospital of this municipality, no provision has been made, by reason of insufficient appropriation, for the proper isolation of tubercular patients, and this class of cases is perforce herded to a certain extent with those affected by pneumonia, bronchitis, etc. The question of erecting separate buildings for the lodgment of consumptives has been unremittingly agitated by the Board of Health, but the Board of Supervisors, in whose hands is placed the apportionment of funds, has as yet failed to realize the necessity of this measure. During the fiscal year ending July 30, 1897, thirty per cent. of the total deaths in the hospital was due to tubercular diseases.

"You can feel assured that the Board of Health of this city endorse any project tending to the limitation of the spread of tuberculosis, and our best wishes will attend your efforts to effect the establishment of a suitable hospital for this purpose. There is a strong possibility that success in your State will influence materially the progress in the West, and we hope to hear from you again in this matter."

Colorado has good bovine laws and regulations, and has issued a circular; this State has been known the world over as a resort for consumptives because of its rare, dry air and bright sunshine, but it has been demonstrated in repeated instances that for many cases the altitude in this State, that of Denver being about 5000 feet, is too great for safety, especially for those disposed to hemorrhages on account of the enforced increased activity of the lungs. It cannot be gainsaid, however, that for a large number of incipient cases the climate of this State is a favorable one. This has stimulated physicians and legislators so that enlightenment and good laws upon this subject have resulted.

Connecticut, Delaware, Iowa, Maine, Massachusetts, Michigan, Minnesota, New Jersey, Pennsylvania, Rhode Island, Vermont, Virginia, and Wisconsin all have good laws and regulations looking to the prevention of this disease. Other States, however, seem to be doing little directly to prevent the disease among its citizens, either by sending circulars of instruction, concerning tuberculosis in man, or giving warning as to the means of prevention.

It is interesting to note in this connection that the Royal Commission on Tuberculosis reported in April, 1895, to the British Government the conclusions of its important investigations, namely, that it is satisfied that the cause of an appreciable part of tuberculosis in man is conveyed through his food, *i. e.*, the meat

of tuberculous cattle. The commissioners believe that the danger lies not only in diseased organs unremoved in the dressing, but also in conveying tuberculous matter to healthy parts by means of the knives and cloths used by the butchers in dressing.

At a meeting of "The British National Association for the Prevention of Consumption and Other Forms of Tuberculosis," recently held in London, at which the Prince of Wales presided, active steps were taken to disseminate knowledge among the people as to the means of prevention of this disease. Many prominent men were present at this meeting, among them Lord Salisbury, Lord Roseberry, and Lord Derby, the Medical Director-General of the Army and Navy, the President of the British Medical Association, the heads of several medical colleges, and many other representative people. The following is taken from the *New-York Tribune* Illustrated Supplement of Sunday, January 8, 1899, in describing the action at this meeting:

"The object of this elaborate plan for disseminating detailed information as to the mechanism of infection is to pave the way for the restrictive measures which constitute the fundamental part of the crusade. If people can be induced to stop spitting in public or to expectorate only into vessels that may and will be disinfected promptly, an end will be put to consumption.—The second great preventive measure that is being urged by the Association is the sterilization of milk. Tuberculosis is a disease that affects cattle as well as human beings, and infected cows transmit the germs to people that drink their milk.—But if the milk is sterilized by boiling, danger is obviated." Finally, it is proposed to aid the recovery of persons now or in the near future suffering from consumption. For this purpose the establishment of sanatoria is recommended. Something is already being done in this direction. The sum of \$100,000 has recently been given for the erection of a sanatorium in London and another is about to be built in York. These institutions are not to be run as free charities, but conducted somewhat like model lodging-houses on a commercial basis.

#### CONCLUSIONS.

From the facts herein set forth it will be seen that tuberculosis is one of the most fatal diseases that the human race has to combat at the present day; its yearly victims inflict a serious and unnecessary drain upon the resources of the State. Unnecessary, because it is now demonstrated beyond question that by the adop-

tion of proper preventive methods a large proportion of those who suffer from this disease may be saved; this is proven, not only by the revelations of science, but by the results which have been obtained in the practical applications of the means to prevent the spread of the disease. A large proportion of the cases brought under treatment have been cured, and many have so improved as to be restored to the producing class. It is also shown that the efforts of Boards of Health in this and other States as well as in other countries have so far succeeded in reducing the percentage of deaths from tuberculosis by the measures adopted, that there is good ground for assuming that with wise laws properly enforced this disease may be almost wholly obliterated.

If half of the more than 13,000 annual deaths from tuberculosis in this State can be saved it means a saving of over \$7,000,000 annually. Any step, therefore, in this direction should meet with the hearty cooperation of this body in the interests of economy as well as humanity.

The chief points which should be borne in mind are:

First. That tuberculosis is an infectious disease, that it may be conveyed from one person to another through the respiratory or digestive tract, and through wounds of the skin and mucous membrane. While all who come in contact with the disease germ may not develop it, no one can determine when the system is in a condition favorable to do so. It is, therefore, wise that all should exercise the precautions necessary for self-protection, and every measure should be adopted by the State that science and experience have demonstrated to be effective. Now that we know what measures to adopt, there should be no hesitation in their enforcement by restrictive rules, the enforcement of which by the sanitary authorities will be, as they already have been, an educative force among the people. While there is some sensitiveness on the subject of reporting these cases, and this should be respected as far as possible, it should not prevent the proper enforcement of measures that will save thousands of useful lives annually to the State, which means many millions of dollars.

It is shown that tuberculous persons may live with their families with a reasonable degree of safety to the other members of it if care is exercised. If there is a suspicious case it is easy to have the test applied by an examination of the sputum, and determine the matter beyond reasonable doubt. The State, therefore, should require the establishment and enforcement of such rules as will give to all the needed information upon this subject.

Second. As the facts show that tuberculosis may be conveyed through infected food, liberal provision should be made by the State for the enforcement of the present admirable laws for checking the disease among the cattle of the State which furnish our milk, and a large portion of the meat supply. While this work in the past few years has been an important feature in the operations of the State Board of Health, the appropriation has been too meager to make the work as thorough as it should be.

It also appears that fruit, candies, cakes, and various articles of food displayed upon the stands of venders in the public streets, and largely sold to children, are sources of danger. The utmost care should be exercised that all food be protected from disease-laden dust which floats in the atmosphere of our cities and towns. If allowed to continue their business these venders should be compelled to provide glass cases as a means for covering all articles sold which are to be eaten.

Third. It is shown that wherever intelligent preventable measures have been adopted in this country as well as in Europe, the ratio of deaths from this disease has decreased from thirty to fifty per cent.; therefore, knowing the methods by which the disease may be prevented, it will be a crime against its citizens for the State to neglect its plain duty of providing in every available way for their safety.

What, then, is the plain duty of the members of this Society? What are we as medical men doing to fulfil the obligation laid upon us when we entered the ranks of this noble profession? The fact that conditions are as they are indicate that, whatever has been done thus far, there is much remains to be done to enlighten the people so that they will adopt the simple preventive measures that we now know to be effective, but the medical profession must not rest until some suitable provision is made for the removal of the worst cases from the crowded tenement-house district of our cities to special hospitals, where they may at least have a chance of life or die with comfortable surroundings, without the danger of infecting their families, a thing almost impossible to avoid in the poor, crowded districts. Incipient cases should be provided with sanatoria, and by such treatment as has been shown to be effective, cured, and restored to the producing class, thus stopping the enormous drain upon the resources of the State which now prevails. We should agitate this question, and urge upon our legislators the importance of State provision, of proper hospitals, and laws should be enacted and rigidly enforced

prohibiting expectorating in the streets and in public conveyances. This is an American habit, and an almost wholly unnecessary one.

There is another practice which when spoken of is usually regarded as a cause for levity, and that is the habit of promiscuous kissing. I do not suppose we could enforce a law against osculation, but the habit of strangers picking up young children in the streets and kissing them is a thing which ought not to be tolerated. If such a thing as kissing is to be indulged, it should be the result of mutual, not enforced, acquiescence, and after a full knowledge of the possible risk.

Every physician should give his patients explicit instructions upon these points, and teach them how to guard their individual rights. Under a despotic government the individual has no rights not accorded by the ruler, and often suffers by his neglect. Under a government like ours, where liberty is the watchword, and where the rights of the individual are jealously guarded, we confront the danger of going to the opposite extreme, and define liberty to mean license to do as we please. It is, therefore, important that the individual be so educated as to exercise his liberty intelligently, and with due consideration for the rights and safety of his neighbors.

#### DISCUSSION.

Dr. E. H. Bartley: Mr. President, and members of the Society: It is very difficult to add anything new to a discussion on a subject that has been so thoroughly written up and talked up as the sanitary control of tuberculosis.

There are some points brought out this evening that I might touch upon; I shall not attempt to touch upon more than two or three. There is one subject I think ought to be considered. It has been considered, but it has never been considered so effectually as to obviate it, and that is, to me, the extremely disagreeable sight in the summer season of seeing on every street corner vegetables that are intended to be eaten without cooking exposed to the dust of the street, often so covered with the dust as to be almost unrecognizable. I think that the Medical Society of this county should express itself upon that subject. It seems to me an exceedingly important subject—that all these vegetables and fruits should be so exposed. There is no excuse for it. The only valid excuse is that our neighbors all do it, and we must. There is no

reason why the vegetables should not be exposed on the inside of the window, or, there is no reason why the window should not be built out, and a glass compartment especially made for that purpose. There are grocers who do not expose their fruit and vegetables in the street; they expose them on the inside of the window. They have a large window, and employ the window for that purpose, instead of piling it full of old rusty cans of condensed milk and tomatoes.

I think we should take some notice of that recommendation by the Committee on Public Health.

I do not think there can be very much doubt, in the light of experiment, and in the light of the literature of the present day, as to the origin of tuberculosis. I am inclined to think that it is beyond dispute that the origin of tuberculosis is from the cow. Where the cow got it I have not yet found out, but if this be true, then all efforts to stamp out tuberculosis will be futile unless we go back to the source and stop that. Now, we are all familiar with the experience of the Bureau of Animal Industry with contagious pleuropneumonia; we are all familiar with the fact that pleuropneumonia was a few years ago very prevalent on Long Island, in Eastern Pennsylvania, New Jersey, and in Connecticut, and there were a few other foci of infection. It worked a great damage to the cattle-dealers; it worked a great deal of harm to our export beef market, and it was almost impossible to export to England or Germany any live cattle through New York. The fact that a large amount of money was invested in this industry led the National Government to appropriate large sums of money to be used in attempting to stamp out this disease. It has been thoroughly done. The disease is much more contagious than tuberculosis, and that contagion or infection has been so thoroughly obliterated that I believe in the last three or four years there has not been a case of contagious pleuropneumonia reported anywhere in the Eastern States.

Now, if that can be done with pleuropneumonia, it can be done with tuberculosis among cattle. Since the discovery of tuberculin and the tuberculin reaction, we have a remedy by which we can discover tuberculosis in animals almost to a certainty. Of course, that has been somewhat contradicted, but the contradiction has not been backed up by proof. But all the sanitary authorities admit that in tuberculin we have an almost certain diagnostic agent, and the diseased animals can be picked out and isolated, and if necessary

slaughtered. Of course, it would be a matter of considerable expense to the State. Where in many cases from twenty-five to seventy-five per cent. of the cows that furnish the milk that we drink are tubercular—it would involve considerable expense, but, as said by the reader of the paper, we should ultimately save the State an immense amount, and it seems to me that no real progress in stamping out tuberculosis can be made until we stop tuberculosis among cattle. I will admit that the danger of contracting tuberculosis from taking milk from tubercular cows has been somewhat overdrawn. Feeding experiments have been very contradictory. Feeding calves and other animals that are susceptible upon material known to be tubercular; as, for example, the bruised glands that were known to be tubercular glands, the experiments have only shown about fifty per cent. of actual positive results. Feeding calves, however, upon tubercular glands that were known to be tubercular, showed one hundred per cent. of positive results. Animals fed upon milk from tubercular cows do become tubercular. The Bureau of Animal Industry in Washington found out of nineteen experiments made by hypodermic injections in guinea-pigs, taking the milk of the market in Washington—which I presume is about the same as the milk would be in this market—one guinea-pig developed tuberculosis out of nineteen. Of course hypodermic injections are regarded as a very positive way of detecting the infectiousness of the milk. The remainder of the pigs remained free from tuberculosis. Taking the milk from tuberculous cows, the results were about the same. Taking the milk from cows that would respond to tuberculin injections, the experiments were not very different. In that case, one out of twelve such cows, the milk of only one produced tuberculosis in the pigs injected, and that from a cow far advanced in the disease. So this matter of the danger from milk has been greatly overdrawn; but there is probably a danger.

The danger from meat is also somewhat overdrawn, if we cook the meat properly. There are people who eat partly done meat, and they run considerable danger of infection with tuberculosis from it. The idea of recommending raw meat is certainly one attended with certain risks, in spite of the inspection of the animals at the time of killing.

I am thoroughly in accord with the plan to establish hospitals in suitable localities, and under the control and support of the State, for the treatment of the consumptive poor, and believe that such a plan will result in much benefit to this class of the com-

munity, and add greatly to our knowledge of the treatment of this disease, but I also believe that a great deal of good, perhaps the greatest good can be done by instituting a campaign of education here in our cities. One plan of disseminating knowledge regarding the preventability of tuberculosis is proposed by your Committee on Public Health. Another thing which I believe to be absolutely necessary is the more rigid enforcement of the ordinance prohibiting spitting in public conveyances. Conductors on the cars are merely instructed, when complaint is made, to call the attention of the offender to the notice. It is a matter of common knowledge that the ordinance is practically inoperative. Once the public are educated up to the belief that tuberculosis is a preventable disease, and that its tendency in its early stages is to recovery, and that a person afflicted with this disease is liable to infect those who are dear to him, legislation, which would now seem radical and oppressive, will then be accepted without a murmur. In regard to the site for sanatoria for the treatment of tuberculous patients, some statements recently made by Professor Proust in a lecture before the Paris Faculty may be of interest. It was observed some time ago that the tubercle bacillus was less prevalent, and perhaps less virulent in proportion to the altitude attained. Dr. Spengler of Davos noted that there were no cases of tuberculosis where he practised. This fact was made known, and cases were sent to this locality, and were cured. The great advantage of altitude is the asepticity of the air. At a height of 1000 meters, hardly any germs are found; at 1500 meters the air is absolutely pure, and is comparable to laboratory sterilized air. Thus secondary infection is avoided. The following sanitary conditions are required: The district chosen must be absolutely healthy, and great care must be exercised to avoid infecting the locality. Good drinking-water is indispensable. Cows should be kept; the quality of the milk can thus be supervised. It is desirable to be within easy reach of a center where provisions can be obtained, but sanatoria should not be too near a densely populated place. A mountainous district usually insures a pure water-supply. Proximity to a pine forest is desirable. One hundred patients should be the maximum allowed in a single sanatorium. At present in France there are the Ormesson and Villiers Hospitals for tuberculous children. They contain 350 beds. The Villepiente Hospital in the Seine Department is intended for tuberculous women, and has 270 beds. At Hyeres there is a small hospital, with 18 beds for patients who are threatened with tuberculosis. The



Assistance Publique is building at Agincourt a sanatorium for poor tuberculous patients; it is situated at a height of 95 meters above the town of Liancourt, which is two miles and a half from the sanatorium. Lyons will soon have a sanatorium for its tuberculous poor; the Hauteville sanatorium, as it will be called, is situated at a height of 900 meters in a mountainous district, protected from the north winds, and surrounded by a pine forest.

Regarding the infectious nature of the sputum of consumptives there can be no doubt, and the danger of dissemination of the disease through this agency is certainly great in our large cities. I wish to recall the results of some experiments which I had occasion to make for the Health Department of the late city of Brooklyn. I inoculated a series of guinea-pigs with the scrapings from the landings and platforms of several of the stations of the Elevated Railroad. In many of the animals the experiment resulted negatively, but in a few instances, one which I recall particularly, of a scraping from the landing at the station of Alabama avenue, the animals inoculated died of tuberculosis.

Regarding the danger of infection from contact with fresh sputum, and the necessity of the proper care of the sputum, I would like to call your attention to the following experiments:

(Alexander R. V. Weismayr, *Wiener klinische Wochenschrift*, November 17, 1898.)

Weismayr repeated Flugge's investigations in an endeavor to answer the following questions: (1) Are germs expelled from the mouth during coughing and other forced expiratory movements, and, if so, how far and how long do they remain suspended? (2) Are the bacteria derived only from the mouth, or also from the lower air passages? (3) What relation exists in the tuberculous between the number of tubercle bacilli in the sputum and that in the oral cavity or in the larynx? (4) Are tubercle bacilli scattered in any appreciable number during coughing; can this scattering of germs contained upon droplets be prevented, and, if so, how? To answer the first two questions a culture of *B. Prodigiosus* was spread over the interior of the mouth. Gelatin plates were exposed in various places, and the individual coughed forcibly several times. On the plates that were perpendicular to the direction of the coughing impulse at a distance of 20, 30, and 35 cm., an enormous number of bacilli were discovered, although no visible particles had been coughed up. Even plates that were at a distance of 4 meters from the coughing individual showed cultures of the *B. Prodigiosus*. Beyond this distance, if the air of

the room was not set in motion, germs could not be obtained on the plates, even if the latter were allowed to remain exposed for half an hour. If the air was agitated by walking, etc., germs could be found even on plates exposed 1 meter behind the individual. Loud talking, crying, and singing scattered the germs to a much shorter distance than coughing. During the dropping of the sputum in spitting from a height, a number of bacteria became separated and scattered through the room; but such a dissemination did not occur when the cuspidor or receptacle was placed only a few centimeters from the mouth. Plates exposed to the breath exhaled in ordinary respiration never yielded any colonies of the bacillus; hence it may be concluded that the breath of the tuberculous patient is not harmful. As to the length of time germs remain floating, it was found that at the end of half an hour practically all had settled to the floor. Experiments showed that bacteria are expelled, during coughing, in nearly as large numbers from the larynx, and probably from the trachea, as from the mouth. Examination of the saliva of tuberculous individuals showed that the bacilli were few in number, even when they swarmed in the sputum. It was found that tubercle bacilli were actually expelled in coughing, but their number was small, and they were always attached to minute particles of fluid; it is extremely likely, moreover, that they came from the saliva, and not directly from the lower air passages. These facts point to measures of prophylaxis. The teeth and mouth of tuberculous persons should be frequently cleaned and disinfected; the sputum should not be expelled over a great distance. The receptacle should, in institutions, be attached to the wall at the level of the chest.

Better still is the pocket cuspidor, which can be held close to the mouth. Floor cuspidors should be abolished altogether. In addition to preventing the scattering of the bacilli in coughing, etc. care should still be exercised to prevent the drying and pulverization of the sputum.

Baldwin (*Phil. Med. Jour.*, December, 1898) made experiments to determine whether tubercle bacilli were often found in a living condition on the hands of tuberculous persons. His conclusions are: (1) Living tubercle bacilli are not infrequently present on the hands of patients who are not careful in the use of handkerchiefs, cloths, and even cuspidors when the expectoration is abundant. (2) No precaution against contamination of the hands can avail better than the use of cuspidors, combined with

frequent ablutions with soap and water. (3) With the present usage of society, people are not likely to use pocket cuspidors, except in institutions. Consequently handkerchiefs will be used in public, especially as antisputting laws are forcing individuals to use them. There is, therefore, urgent necessity for a cheap, comparatively impervious and soft handkerchief that can be burned.

#### THE EXAMINATION OF STREET DUST FOR TUBERCLE BACILLI.

Marpmann (*Cent. f. Bakter.*, August 25, 1893) observed that in old sputum the tubercle bacilli no longer presented their characteristic shape and appearance, but looked like involution forms. Further than this the bacillary form sometimes entirely disappears, the bacilli appearing only as granules, which take a characteristic stain. Marpmann conceived the idea that tubercle bacilli might be present in the atmosphere in this granular form, and by carefully investigating the dust of various streets, discovered that these granules were present sometimes in large numbers.

Satisfied that these bodies represented the tubercle bacillus, he tested their vitality, and making use of the discovery of Vissmann that the tubercle bacillus could resist exposure to steam for a short time, succeeded in obtaining from street dust pure cultures of the tubercle bacillus.

George A. Evans: Mr. President, so much has been said to-night regarding the contagious transmission of tuberculosis that there is very little left to add to the subject. To-day it is everywhere conceded that tuberculosis is a communicable disease, that it is largely preventable when scientific cleanliness and good hygienic conditions prevail, that the chronic type is curable in all its stages, but more particularly in its first stage—and that it demands and should receive active hygienic and medicinal treatment at our hands. It is one of the commonest diseases with which humanity is afflicted and yet, I do not hesitate to say, that considered from the standpoint of the general practitioner, it is one of the least understood. The reason for this is due, as it seems to me, to the fact that until recently medical men were almost without exception in agreement as to the incurability of the disease, that the treatment of the affection was in accordance with this theory, and consequently cases of pulmonary tuberculosis received very little more than our prefatory attention.

The disease is ubiquitous in every sense of the term. It has

always existed, and, as Hirsch says, it follows the footsteps of man wherever he goes, nearly five hundred years before Christ it was described by Hippocrates as a suppuration of the lungs due to various causes.

Isocrates, basing his opinion on clinical observation, considered pulmonary phthisis to be a contagious disease.

Celsus, who lived during the Christian era, recognized three forms of consumption; an atrophy of lung; cachexia, and ulceration of lungs.

Cappadox described the disease as due to the presence of pus in the lungs, the result of abscess, chronic bronchitis, or pulmonary hemorrhage.

Galen believed phthisis to consist of simple ulceration or suppuration of the lungs characterized by putrid expectoration.

Sylvius was evidently the first to recognize the presence of nodes in the lungs. He believed that their suppuration gave rise to the formation of tubercles and cavities. He also believed in inherited predisposition.

At about this period, 1670, phthisis was identified with scrofula and I think it may be safely said it is so identified in the minds of many medical men of the present day.

For our first positive knowledge of tubercle and for the first attempt to discriminate between pulmonary phthisis and scrofula, we are indebted to Stark, whose writings on the subject were published in 1785, some fifteen years after his death. Matthew Baillie, in his celebrated work on "*Morbid Anatomy*," enlarged somewhat on the doctrine as laid down in Stark's writings but it remained for Bayle to lay the foundation for our present knowledge of tubercle, and although he described six varieties of phthisis, he nevertheless declared tubercle phthisis to be a distinctly specific disease, and thus tuberculosis was emancipated from scrofula.

Laennec amplified and perfected the doctrine which Bayle had promulgated.

Virchow and Rhindfleisch founded a new doctrine to supplant that of Bayle and Laennec. They taught that only miliary tubercles were to be called tubercles and that no process was to be called tubercular unless the gray granulations were found. Laennec like Bayle had described several varieties of tubercle. The first artificial production of tubercle was made by Klencke in 1843, to which reference is made by Koch. Klencke, however, did not continue his researches and they were soon forgotten. In 1865 Villemin immortalized himself by presenting a memoir to the

French Academy of Medicine on the origin and nature of tubercle and its transmission to rabbits from man.

In 1882, Robert Koch discovered the tubercle bacillus—the value of this discovery to humanity is being very slowly understood. Two years after it was made Alfred Loomis wrote: “The etiology of this bacillus to phthisis still rests solely upon Koch’s demonstration.” In 1885, Flint stated that clinical experience fails to furnish positive proof of the communicability of phthisis.

I remember in my younger days, Austin Flint, the elder, talked a great deal about two forms of tubercle, the yellow and the gray. Some times later in his writings he rather ignored the yellow and we had only the gray tubercle. Then we had three forms of phthisis, the tubercular, the catarrhal, and the fibroid, and finally I think Flint in the last writings recognized practically only two forms—tubercular phthisis and fibroid phthisis, or interstitial pneumonia. If we take the consensus of opinion of medical men practically there is only one form of tuberculosis. The idiopathic affections of serous membranes are practically all tubercular. The affections of the joints, of the serous membranes—take hip-joint disease, or what we call Pott’s disease of the spine—are tubercular, the chronic glandular swellings are tubercular, excepting those associated with malignant disease; so the matter has been pretty much simplified. I think the majority of those who have investigated and gone into the subject believe that tuberculosis as it affects the joints, and Pott’s disease in children, is in almost every instance the result of the ingestion of tuberculous food; that it does not come from the entrance of tuberculous material through the respiratory tract, but through tuberculous food gaining entrance into the body through the digestive tract. It is a remarkable thing, and I think a great many will agree with me, that children, as compared with adults, are so seldom affected with pulmonary tuberculosis. You take young adults between the ages of 20 and 30 and they seem to monopolize the disease, and the only explanation I can give is in the ingestion of tuberculous food, which we are all doing every day of our lives, that the gastric juice in the adult is sufficiently acid to inhibit or to destroy the bacillus, or to inhibit its growth, which is not perhaps the case in the child; whereas in the child there is some reason—developmental probably—why it does not affect the pulmonary tissue as it does in the adult. James has pointed out the fact, or rather explained the matter in this way: that between 20 and 30 we have ceased our growth in stature, but that we are developing; our bones are

becoming larger and our tissues, generally, are becoming larger, the muscular development is gaining, and when that ceases at about 30—or some put it at 28, and I think the life-insurance companies put it at 35 in order to be sure—that a man who may have latent tuberculosis is not liable to the softening of those tubercles. The Germans say that everybody has tubercle more or less, and the great point is why it is they do not soften. Simply and solely, I believe, because certain individuals do not happen to get their nutrition below a certain point. If we take young women who marry, suffering from latent tuberculosis, become pregnant and go through with their labor, in how many instances do we find them never completing their convalescence? They develop pulmonary tuberculosis simply and solely because the nutritive process and systemic vitality are depleted, and the tubercles under those circumstances soften which under other circumstances would not. In cases of pneumonia, the so-called unresolved pneumonia, the cheesy pneumonia of Niemeyer, the tubercular pneumonia of Fox, is to my mind nothing more or less than pneumonia occurring in subjects in whom there are latent tubercle, and the acute stages of the disease having passed off, the body vitality reaching a point when it is at a low ebb, these tubercles soften and we have our unresolved or cheesy pneumonia. I do not believe they are cases of recent infection at all, but I believe the body vitality has got to be reduced to a certain point before these tubercles, which have existed in the lungs for a number of years, begin to soften.

In considering the protection of those who are in health from the sputum of those who are infected with pulmonary tuberculosis, the question comes up, what are we going to do with the sputum which is produced as a result of this disease? The best interests of the tuberculous demand the expectoration of that sputum, the average consumptive gets rid of several hundred million germs a day. The disease starts and involves a very small portion of the lungs. A small amount of sputum is produced at first, mucopurulent, and this by extension infects other portions of the lung. Clark and Bennet made some experiments to show that if we can prevent the extension of the disease, that which already exists will get well. I do not remember what the experiments were. Now, here is a man producing several hundred million bacilli a day. What are you going to do with him? If he retains the sputum in his air-passages he is by auto-infection extending the disease and rendering his own recovery impossible. He must get rid of

them, and if he can get rid of them all he will get well. If he can keep from reinfecting himself he will get well, and he has got to get rid of them, and the only way is to use a handkerchief or a pocket spit-cup, according to the new dispensation.

Up in Sullivan County it is the practice to send a great many consumptives, and there are a great many there during the summer, and there are during both winter and summer a great many at Saranac Lake, and they are spitting their hundreds of millions of bacilli on the soil, and as we have heard from Dr. Brush's paper that the powdered bacillary dust, or the dried sputum powder has retained its activity for three years in experiments reported, and we are going to send our tubercular patients up there to get well—we are sending them to a place, I fear, where they will reinfect each other. And the carpets, I take it, in Sullivan County hotels and boarding-houses, where many of this class of cases have been, are in a condition to reinfect those who may go there who would otherwise improve.

I will close by quoting from the proceedings of the International Medical Congress of 1888, of which Villemin was President: "Do not send your tuberculous patients to resorts to which other tuberculous subjects go."

Dr. Herbert F. Williams: The value, if any, of a subject of such vast importance as that which has been so ably presented to us to-night, is the emphasis which may be made on some particular point—either brought out in the paper or suggested by it; and if my experience of the last twenty years with the various forms of pulmonary disease enables me to speak with any degree of accuracy or force, it is on the subject of the prevention of tuberculosis. I cannot hope to offer anything which is not known to us all, yet, while for the moment I am simply the mouthpiece for this Society, in so far as these deliberations are to benefit mankind, I will state two general propositions—first, pulmonary tuberculosis is the cause of more fatality than any other disease; and, second, that from such a pinnacle of fiendish prominence it ought to be reduced to the bottom of the list of fatalities, if not nearly eradicated. The first proposition is too self-evident to need any discussion. The second is too comprehensive to hardly be touched upon, in a discussion like this. It would almost seem that opprobrium might be cast upon the medical profession of these and former years, for the reason that, notwithstanding the march of progress in almost every department of human effort, the improvement in our methods of treatment, as shown by diminished

death-rate, is not correspondingly great. The truth is, that no opprobrium can be cast upon the profession, as a whole. It may be true that here and there there may be apathy, but it has been born of disappointment and despair, over the conditions that exist beyond the control of the profession. The result of experimental discovery may have been more fortunate and stable in some of the fields of medical research, but nowhere has there been more self-sacrificing effort than in the attempts to control developed pulmonary tuberculosis. Such an effort is being made by Dr. Brush, and it should be our duty to assist him in every way, but he, like many of us, is working on the periphery of the whole question. He is seeking to add to our resources to control developed tuberculosis, and his move is in the right direction, and if he shall succeed in getting the appropriation from the State Legislature there can be no question that he will have accomplished a great good for the poor of our State, and will have set a good example for the other States of the Union. But the suggestion I would desire to throw out is in reference to the prevention of tuberculosis. There is an old adage, "The poverty of the poor is their destruction." I would change this and say, in reference to the subject of tuberculosis, The *ignorance* of the poor and rich is their destruction.

The causes that underlie the development of tuberculosis are basic, and belong alike to our social and civic methods of life—for instance, our marriages are frequently contracted with little or no thought of the effect of such union upon the progeny. Again, the combined experience of the profession is, that pure air, sunlight, cleanliness, and wholesome food are the best means to cure tuberculosis, yet these very agencies are ignored as measures of prevention.

If good air and *sunlight* and cleanliness can cure tuberculosis—and they unquestionably can—then surely they can prevent the development of tuberculosis; and this is the one point I wish to make emphatic to-night. I cannot speak of the reasons why such a simple yet potent truth has not taken possession of the understanding of every one—but the fault does not lie at the door of the profession. The profession is not divided on this question; but for some reason we have failed to impress the truth upon the center, from which it must proceed again with added force. I would have editors, clergymen, legislators, orators, and all people who catch the public ear iterate and reiterate these fundamental facts, and then, with such intelligence diffused through the com-



munity, the profession could hope to make more rapid progress not only in the treatment of the developed disease, but could reasonably hope to modify its type, and eventually to classify it with the more rare forms of inevitable degeneration.

Dr. G. R. Butler: As I listened to Dr. Brush's very able paper I felt very much as though I was hearing a confession of faith. One listens to a paper, in the first place, to find out what the essayist thinks, and in the second place to find out whether you agree with him or not. The views and conclusions of Dr. Brush's paper were such as I think all physicians of modern times are in entire accordance with. The motive of this paper was, of course, the prophylaxis or prevention of the spread of tuberculosis. The trouble is, with reference to all these points, that no reform can spring into existence full-fledged. You have got to push a little and push a little as you can from time to time until the desired end is accomplished.

The three points which, in my mind stand as desirable for immediate accomplishment and enforcement are, in the first place, the care of the sputum; in the second place, the disinfection of the house and in particular the room occupied by the tuberculous patient; and in the third place, compulsory notification of the existence of cases of tuberculosis.

With reference to the care of the sputum, perhaps sufficient has been said. There is an interesting point as to the relative importance of the care of the sputum and the care of the food, including the meat and milk supply. The cases of tuberculous disease which one sees in which the channel of entry of the germ has been the respiratory apparatus outnumber by far those in which the infection occurred by way of the stomach and intestines. Personally, I should be more than satisfied if the sputum was taken care of, even if very little attention was paid to the meat and milk supply.

I must beg leave to differ with the Doctor as to the effect of the notices in the cars. I am fully persuaded that the notice with reference to spitting in the cars has been of decided benefit. Certainly one sees much less of that very disagreeable and harmful habit than used to be the case before the notices were put up.

The disinfection of the house requires little to be said. It should be routine just as much as after scarlet fever or diphtheria.

With reference to notification. The notification should be managed in such manner as not to make the patient feel that he or she is a leper. You take a susceptible patient, and that patient will

not object to being considered a source of danger for four weeks or six weeks, as in the case of scarlet fever or diphtheria, but if it comes to months or years of having their friends look upon them as a source of danger, interfering with their ordinary social and domestic intercourse, it is going to be a big detriment in every way. Of course, in one sense, the welfare of the individual must yield to the welfare of the majority, but I firmly believe the matter of notification can be so managed and the matter so explained that the patients will not suffer the penalties of absolute isolation, and will not feel as if they were objects of suspicion and dislike to their friends and their relatives.

A goodly part of the medical education of the public must come from the private practitioner, and every one of us has daily opportunity for impressing upon the public, upon our own personal friends and clients, the true nature of tuberculosis, showing the precautions which ought to be taken. I believe that the leaven is spreading. Most intelligent people, the majority of them now, I think, understand the nature of tuberculous disease and the precautions which are necessary, and also understand that the subject of it is not to be avoided as if he had scarlet fever or measles or some other of the specific or infectious diseases of shorter duration.

It is astonishing how closely the newspapers are read. You will see a little bit of an insignificant item in the paper, and you will find your friends have seen it and read it. Now, if some method could be devised—either by paying for it or through the public spirit of the newspapers—whereby at intervals a short, perfectly clear statement in reference to tubercular disease could be published, I feel sure that in the course of a year, or two or three years, keeping at it constantly, the public would become well-posted in regard to the nature and methods of prevention of this disease.

Dr. A. C. Bunn: We do not treat tuberculosis, if we can help it, in St. John's.

May I say a word in regard to one phase of this subject not touched upon to-night, and which I think is important? There is about to be established a large public library, a most important feature in the life of Brooklyn, and a most active means, unless that danger be forestalled, of conveying the contagion of consumption. Consumptives are, as a general thing, intelligent people—people who have time on their hands; they have time to read and like to read. They get books from the public libraries, they

keep them, they lay them down upon their beds or couches, and these books are returned to the libraries, and unless properly disinfected they are likely, when they are taken out again, to be sources of infection of consumption. I know one member of the Board of Trustees of this new library. I had the pleasure of speaking to him on this subject the other day and know that he is alive to this danger. It is a splendid enterprise, and there is no practical reason why the danger should not be forestalled, and yet it seems to me it is something which should be borne in mind by the medical profession, and public sentiment should be brought to bear, as far as possible, upon those interested in or controlling this enterprise.

I should like to say a word in regard to the influence of what has been done in educating public sentiment in Brooklyn thus far. I had the privilege of being with this Society on one other occasion which is destined to be historic—when the discussion was had on consumption some two years ago. I believe it was an epochal time in educating the public on the disease. Since then the public has become much better informed, and I think that this is largely due to the work of the Kings County Medical Society at that time.

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## THE METRIC SYSTEM IN PRESCRIPTIONS.

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BY E. H. BARTLEY, M.D.

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The metric system of weights and measures, whatever may be said of the difficulties in the way of its general adoption, is making substantial progress toward this end. The medical profession is more conservative than most other of the scientific professions in adopting it.

The pharmacist has long since seen the advantages of the metric weights and measures over the old system, and adopts them in the U. S. P. Recently the English pharmacists and physicians have given proof of their preferences by adopting the metric measures and weights in the new B. P., thus completing the general adoption of the system by the pharmacopœias of the world. It remains for the medical and engineering professions to fall in line with the other scientific professions, to make its use universal.

The engineers and machinists hesitate to make the change, because of the great expense involved in reconstructing the tools

and instruments used by them. This is the greatest obstacle to be overcome in any branch of industry.

The physician has no such obstacle to overcome. His chief objection must come from a possible danger of mistakes in making the change, not with the dispenser, but with himself.

The dispenser has already adopted the system by his own volition, and there is hardly a dispensing druggist in any of the large cities of the country who has not metric weights and measures.

One great hindrance to the adoption of this system in prescription writing is the fact that doses are learned in grains and drams, and it is thought by most physicians to be necessary to relearn the doses in metric measures.

This is not necessary, as a little consideration will show. The object of this paper is to briefly present easy methods of overcoming these difficulties.

The author has used the metric system in prescription writing for eighteen years, and has never pretended to learn the doses in metric weights. Nor can he recall but one error in putting up the prescriptions. This error consisted in putting up a larger quantity of fluid than called for, because the pharmacist did not have the metric fluid measures, and made an error in his calculation.

In the transitional stage, it is necessary for the physician to have well in mind a few relative weights and measures for mental calculations. The comparative measures usually adopted are the following:

Approximate Values.	Correct Values.
$\text{f}\text{3i}=30 \text{ c.c.}$ $\text{3i}=30 \text{ grms.}$	( $\text{f}\text{3i}=29.57 \text{ c.c.}$ $\text{3i Troy}=31.1 \text{ grms.}$ )
$\text{f}\text{3i}=4 \text{ c.c.}$ $\text{3i}=4 \text{ grms.}$	( $1 \text{ oz. Adv.}=28.38 \text{ grms.}$ )
$\text{Gr.i}=0.065 \text{ grms.}$	( $\text{f}\text{3i}=3.697 \text{ c.c.}$ $\text{3i}=3.888$ )
$\text{Oj}=500 \text{ c.c.}$	( $\text{Gr.i}=0.0648.$ )
	( $\text{Oi}=473 \text{ c.c.}$ )

One teaspoonful theoretically holds 4 c. c.; but really it will hold about 5 c. c. if filled, hence there are but 6 to the ounce, instead of 8, as usually supposed. It must be admitted that our present popular system of calculating doses of medicines is not very exact, and a wide margin must be allowed for variations in doses, due to the variation in the sizes of different spoons. As extreme accuracy is impossible, we need concern ourselves with approximate measures only.

Thus, a wine-glass is often spoken of, and we all know the variable capacity of this vessel. The usual wine-glass is supposed to contain f3ii. A tumbler usually contains f3viii, but it frequently contains nine or even ten ounces.

The terms dessertspoon and tablespoon are usually meant 'o contain f3ii and 3iv respectively, but they often hold f3iii and f3vi.

Then, again, nurses may vary very considerably as to their ideas as to when a spoon is full. We have all been surprised to find that in one house a three-ounce mixture, directed to be given at the rate of three teaspoons a day, will last ten days, and in the next but six days.

When we take these matters of common observation into account, we are struck with the lack of uniformity, or even approximate accuracy, in our doses of liquid medicines. This does not apply to pills and capsules. But here we meet with an uncertainty as to the solubility of the drugs, especially when made in a mass with excipients. We only know that they sometimes fail to disintegrate, and pass through the entire digestive tube without change. The more modern compressed tablet is quite as uncertain, in this respect, as the ready-made pill. While some of them rapidly disintegrate, others will not show any disintegration when immersed in water for twelve hours.

Attention is directed to these facts here to show that our present methods of regulating the doses of medicines is not scientifically exact, and our measures are only roughly approximate, at best.

Accurate calculation of the values of the metric measures in the old measures are not necessary in prescription writing. Following the usage of scientists in general, I believe that in measures of weight we should use but two denominations, namely, the *gram* and *milligram*, and usually the former. In measures of capacity or volume we should use only the single denomination of *cubic centimeter*, abbreviated c. c. We would thus write the equivalent of the grain .65; a tenth of a grain .0065; and the  $\frac{1}{100}$  gr. .0006.

The terms *decigram* and *centigram* are entirely unnecessary and confusing, and liable to be the cause of mistakes, because of the movability of the decimal point. Such an error occurred in this city a few years ago, in a store whose reputation for careful work is above reproach. The position of the decimal point should be immovable, and should separate grams and fractions of

grams, and the three places occupied by milligrams, or thousandths of grams, should always be filled in, thus: Ten grams should be written 10.000 grams. To avoid the possibility of a mistake, it is the habit of some physicians to use a vertical line to indicate the decimal point, and to separate grams from fractions of a gram.

The author has found this device so safe and convenient that he would strongly recommend it, and would regard it as a necessity for those beginning the use of the metric system. It is convenient to have this line printed on the prescription blanks: In the present transitional state it is convenient to prescribe such quantities as will correspond to the established sizes of bottles already in the market, and kept in stock by all pharmacists: *i. e.*, 30 c. c., 60 c. c., 90 c. c., 120 c. c., and so on. In the course of time these sizes will probably be changed to 25 c. c., 50 c. c., 75 c. c., 100 c. c., and so on.

The calculation of doses is a matter that deters most physicians from any innovation. We will consider this subject at this time only from the standpoint of the physicians or druggist who has already learned the doses in terms of the old English measures.

For convenience let us assume that a two-ounce mixture is to be prescribed, and a teaspoonful dose is to be given.

*A dram of a two-ounce mixture will contain as many grains or minims of any ingredient, as there are grams or c. c. of that ingredient in the whole two ounces.* If, then, we desire to give one grain of a given drug, we may write for one gram of that drug for each two ounces of the mixture, one and a half grams for a three-ounce, or two grams for a four-ounce mixture. By keeping this rule clearly in mind, the calculation of doses becomes easy and free from liability to error.

Let it be desired to prescribe a two-ounce mixture containing:

	Doses in grains.	Metric Quantities.
<b>R</b> Potass. Iodidi	10 grs.	10 000
Hydrarg. Bichlor.	$\frac{1}{20}$ grs.	050
Aquæ	℥ii.	60 c. c.

M.

Or a three-ounce mixture containing

<b>R</b> Quinine Sulph.	2 gr.	2   000
Morph. Sulph.	$\frac{1}{8}$ gr.	180
Syr. Simp.	f℥i.	30 c. c.
Acid Sulph.	q. s.	q. s.
Aquæ, q. s. ad	f ℥iii.	90 c. c.

M.

In writing for pills, powders, or capsules it simplifies matters to write for fifteen or some simple multiple of this number; as 8, 15, 20, 30, etc.

	Required Dose in grm.	Metric Total quantities.
R Strych. Sulph.	$\frac{1}{60}$ . $\frac{15}{60} = \frac{1}{4}$ grm	0   015
Sparteïn Sulph.	$\frac{1}{4}$ . $\frac{1}{4}$ of 1 grm.	0   250
Digitalin	$\frac{1}{45}$ . $\frac{15}{45} = \frac{1}{3}$ grm.	0   020
M. ft. capsulæ No. XV.		
R Quinine Sulph.	gr. ii.	1   000 = 15½ grs.
Salicin	gr. i.	500 = 8 grs.
Acetanilid	gr. vi.	3   000 = 46½ grs.
M. ft. capsulæ No. VIII.		

#### DISCUSSION.

Dr. Brundage: I am much pleased with Dr. Bartley's paper and I believe his method of overcoming some of the difficulties which seem to tend to make the system less popular than it should be has the warrant of both ingenuity and convenience.

Many of those who have used the old English system of weights and measures until it has become almost a second nature to them, strenuously object to the employment of the metric system. Some of the points they raise against the metric system are the following:

When, upon the assumption that the gram and cubic centimeter are practically equal to each other and consequently interchangeable, fluids of widely differing weights are dealt with, as for instance, such fluids as chloroform which is heavy and ether which is very light, great error may be committed.

Another point is that in making the change from one system into the other—the old into the new, or vice versa—there is apt to be error in the calculation of the fractional grams.

Still another objection to the system refers to the very character of the system, *i. e.*, that it is a decimal system; that the number 10 can be divided but once without obtaining a fraction. Divide 10 into 2 parts and you have 5; again divide into 2 parts and you have 2.5, and so on by a series of divisions you encounter increasing difficulty. An objection to which Dr. Bartley has alluded, namely, the use of the decimal point, resulting quite

seriously. It is my opinion that more errors have been the result of misplacing or misreading the decimal point than to miscalculation, and that the claim that Dr. Bartley makes that the line should be used and not the point, is a good one.

One of the difficulties some encounter with the metric system is in remembering whether the Greek prefixes deca, hecto, kilo, and myria are used to represent a multiplication of the meter, liter, gram, etc., and the Latin prefixes deci, milli the division of them, or whether it is the reverse. Perhaps a suggestion which I have somewhere encountered might be of service to them; that is, let the initial letters GILD denote that Greek increases, Latin decreases.

Whether it was James Watt of steam-engine fame or as some have claimed, a French bishop, who invented the metric system, it has thus far proven impossible to secure its adoption by the United States. It has been legalized in this country and England, but I believe has not yet been adopted as the standard by either of them.

France and some of the other countries have adopted it and it is constantly growing in favor, but it is doubtful if it will very soon become the universal system, notwithstanding the advantages it offers.

I believe that Dr. Bartley's plan of working with it on certain lines with certain fixed quantities as a base in prescription writing, so as to use 2-, 3-, and 4-ounce mixtures and to calculate upon a 15- or 16-gr. basis, is a good one. It certainly greatly simplifies the whole matter, and I am very glad to have had an opportunity to become acquainted with the plan.

Dr. Bartley: I omitted to say in my paper that I have been accused of writing both systems in the one prescription. I find it very convenient to use the old sign of the dram, for teaspoonful, instead of writing out "teaspoonful." Instead of 4 c. c., I write the old sign of a dram.

I will again emphasize the matter brought up by Dr. Brundage, *i. e.*, the danger of error, and the bother with the prefixes deca, deci, etc. We have only to express volumes in cubic centimeters. In speaking of a liter, we designate it as 1000 cubic centimeters. 1500 cubic centimeters is the normal amount of urine passed in twenty-four hours, as well as a liter and a half.

The objection is sometimes made that we cannot divide the gram or liter but once without a fraction. If we use only grams and thousandths of a gram, this objection does not hold. If we



divide the liter once we get 500 c. c.; if we divide a gram, we get half a gram, or 500 milligrams, and so on. The fact is we have been so much in the habit of dealing in quarters and halves in our money, and quarters of a bushel, half a mile, etc., that we think everything must be divided into halves, quarters, and eighths. But it is not so. We can divide into tenths just as well as into eighths.

I mention one point which is outside of the paper, and that is the great difficulty that will be encountered by the machine-shops of this country; the very extensive changes that would have to be made, the overhauling of all the dies and machines for cutting threads, all of which would have to be made over into the new scale. It would be a tremendous expense, and will be a long while before that will be undertaken, but the time will come when it will be done.

The United States Congress is now considering a bill to make the metric system the only recognized system in all the Consular service. Consuls all over the world are urging the Government to do that and are sending reports to the United States, advising merchants who wish to do business with Japan, Germany, France, or with the South-American Republics, or any country where the metric system is in common use, that there is no use sending price-lists, unless all quantities and prices are translated into the metric system. It is probable that customs duties will soon be levied on the metric system. It would be of great advantage in our business intercourse with European countries.

Dr. Hunt: I went into the store of one of Dr. Bartley's confrères in the College of Pharmacy and looked over the prescription-file and was surprised to find the large number of metric prescriptions he puts up. He said that that line is the only thing that causes mistakes. The doctor will start in to use the line and after he gets a little more familiar with the system, he will write all over the paper and use the dot, and consequently druggists who are not looking out for that will make mistakes.

## OVARIAN CYST WITH TORSION OF THE PEDICLE.

BY F. W. WUNDERLICH, M.D.

Read before the Brooklyn Surgical Society.

January 20, 1898, I was called to attend J. T., age 21, domestic native of Austria. She stated that for about a week she had suffered with pain in the ileocecal region every morning and the pain had passed off after she got up. On the twentieth the pain was more severe than it had been on the preceding days. There were pain and tenderness on pressure in the ileocecal region. No swelling could be felt at the seat of the pain, but a round tumor could be felt, extending from the median line to the left inguinal region. It was movable, and there was no marked tenderness on pressure. Pulse, 64; temperature, 98.4° F. No constipation. Menstruation normal. I supposed it to be a case of appendicitis, and that the patient had a cyst of the left ovary. Ordered absolute rest in bed, liquid food, and codein gr.  $\frac{1}{6}$  every two hours until pain was relieved.

January 21st: She had acute pain at 2 A.M.; it was relieved after she had taken a powder, but returned in irregular intervals. At the time of my visit she was free from pain, but slight tenderness on pressure was present in the ileocecal region. In order to avoid the constipating effect of codein, antipyrin was ordered in 2-grain doses.

January 22d: Patient slept all night; had no pain as long as she kept quiet; tenderness on pressure was still present in the ileocecal region. Pulse, 74; temperature, 98.4° F. Had no stool. Ordered an enema to be given, if she had no evacuation from the bowels during the day.

January 23d: Patient did not sleep well, owing to a recurrence of the pain after the enema had been administered. She had no evacuation until 11 P. M. Tenderness on the right side was diminished, and the tumor could be felt more distinctly on the left side. Pulse, 82; temperature, 98.4° F.

January 24th: Patient was restless during the night; she had more or less pain from 2 A.M. to 8 A.M., but had no pain at the time of my visit. No material change in her condition.

January 25th: Patient has pain in the right side since yesterday evening, and slight increase of tenderness, but no swelling was perceptible on that side. Had no evacuation since January 23d. Ordered hydrarg. chlorid. mit. gr. 5 to be taken at once, and a solution of antipyrin gr. 40 in 2 oz., a teaspoonful every two hours until pain is relieved.

January 26th: The patient had gone downstairs into a room on the next floor, and was sitting on a chair. A copious evacuation had been produced by the calomel, subsequently the pain had ceased entirely. She looked pale and weak, but she insisted that she was able to be up and resume her work, and said that she would send for me if my services were required.

February 2d: I was called and found the patient suffering with acute pain in the lower portion of the abdomen. It extended up to the right lumbar region, and was accompanied with considerable tenderness on both sides of the abdomen. Temperature was normal; pulse 96 and small. Two hypodermic injections of morphin,  $\frac{1}{3}$  grain each, had to be given before the pain was relieved. I told the patient that an operation was imperative, and she would have to be sent to the hospital. She was sent to St. Peter's Hospital late in the afternoon.

February 3d: The patient was carefully prepared for celiotomy. As soon as she came under the influence of the anesthetic it became apparent that in all probability the case was one of ovarian cyst, with torsion of the pedicle. On opening the abdomen quite an amount of bloody serum was found. The cyst was on the left side, and in front of the uterus; it was dark grayish-red; the veins were large and very much distended, some of them had ruptured, and hemorrhage had taken place into the cyst and into the ovary. There was torsion of the pedicle, showing one complete axial rotation from left to right. The cyst was drawn out, the torsion of the pedicle untwisted, the pedicle transfixed with a double catgut ligature close to the uterus, each half tied separately, and then one ligature was carried around and tied over both parts. The pedicle was cut, and dropped into the cavity. After removal of the tumor all liquid was taken up with sponges. The left ovary and tube were normal, also the appendix vermiformis. Having made a careful toilet of the peritoneal cavity, the wound was closed with a single row of silkworm-gut sutures.

Aside from the formation of a stitch-hole abscess the patient had an uninterrupted recovery, and was discharged cured March

13, 1898. Subsequent to her discharge from the hospital, the patient presented nervous disturbances of a hysterical character. They gradually subsided, and she has been in good health since.

The points of interest connected with this case are:

1. Presence of the tumor on the left side of the uterus, although it arose from the right ovary.
2. Pain and tenderness being located on the right side of the uterus, gave rise to an error of diagnosis; appendicitis was diagnosed when torsion of the pedicle was present.
3. The irregular development of the torsion. It must have developed slowly at first, from January 14th to January 20th; it became more acute January 20th to January 24th; while on January 25th more or less untwisting of the torsion must have occurred simultaneously with the copious evacuation of the bowels produced by the calomel; otherwise it would be difficult to understand how she was able to attend to housework from January 26th to February 2d, when a recurrence of the torsion took place, which was more acute and gave rise to urgent symptoms.

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## PROGRESS IN MEDICINE.

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### GYNECOLOGY.

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BY WALTER B. CHASE, M.D.

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#### SARCOMA UTERI.

41) V. Franque (Wurzburg) (*Münchener med. Wochenschr.*, No. 41) says, in the last ten years 3366 cases seen at the Wurzburg gynecological clinic included 304 uterine carcinomata (35 affecting the corpus), and only 16 sarcomata: sarcoma seems thus to be twenty times as uncommon as carcinoma, and twice as rare as carcinoma of the corpus uteri.

Only two of the sarcomata—one of the corpus and one of the cervix—certainly originated from the mucous membrane: in a polypoid tumor of the fundus the origin was doubtful. All of the 13 parietal sarcomata developed like myomata, five were distinctly submucous (two polypi) or interstitial submucous, while there was only one interstitial subserous, one interstitial intraligamentary, and one entirely subserous.

Two tumors were primary, five certainly, and six more or less probably, to be referred to preëxisting fibromyomata; the derivation of the sarcomatous elements from the muscular fibres could not be demonstrated in any case, but was probable in two, and in these and three others their derivation from the interstitial tissue was indubitable. In six cases the diagnosis before operation had been fibromyoma. One woman was 40, another 34, and another only 27, but the average of the remaining 13 was 51.6 years; six were nullipara; ten had from two to eleven children (average 6.5).

SIXTY-FIVE CONSECUTIVE ABDOMINAL SECTIONS WITHOUT A DEATH;  
WITH CLINICAL AND PATHOLOGICAL REPORTS.\*

Robb (*Annals of Gynecology and Pediatrics*, April, '99). The cases on which the paper was based were entirely unselected. After describing the organization of the surgical staff and the preparation of the patient, he called attention to a matter often overlooked, to the great detriment of the patient—*i. e.*, the use of proper clothing to protect against chilling. It was his custom to use gauze-pads instead of marine-sponges, and to dust the wound with a powder composed of one part iodoform and seven parts boric acid. When nausea and vomiting persisted after the first or second day, it could often be controlled by giving two tablespoonfuls of very hot water containing ten grains of bicarbonate of sodium, and repeating this at intervals of an hour. It was exceptional for him to use morphin after operation. The bowels were opened by calomel, assisted by enemas of glycerin and soapsuds. The immunity from serious sepsis in this series of operations he attributed to the technique, laying special stress on the use of saline solution in the abdominal cavity and the wearing of rubber gloves while operating. In only one case had drainage been used. Suppuration of the abdominal wound had occurred three times. The average stay in the hospital had been thirty-two days.

PULMONARY METASTASES IN DECIDUOMA MALIGNA.

Neumann (*Münchener med. Wochenschrift*, No. 49, p. 158, 1898) says a woman after bearing a living child was subject to persistent hemorrhage, on account of which the uterus was repeatedly curetted. From examination of the *débris* removed Neumann made a diagnosis of malignant new growth. The uterus was ex-

tirpated four months after delivery, but the woman died two and a half months later from metastases. There were numerous round knots, up to the size of an apple, in the lungs, partly superficial, partly in the deeper parenchyma, in color ranging from grayish to brownish-red; some of the masses were necrotic in the center, others breaking down in suppuration. After discussing the symptomatology and diagnosis of the disease (on the basis of his own experience and the statements of Eiermann, Schmorl, and others), and the success of early extirpation of the uterus, Neumann pointed out that hemoptysis occasionally occurs during pregnancy, though neither tuberculosis, heart disease, or other cause for it can be detected. He had met with such hemorrhage in two cases in the early months of hyatid mole, but otherwise normal pregnancy, the patients feeling perfectly well. After a few weeks the hemoptysis ceased and the women remained quite healthy. It is not impossible that in such cases there may have been embolic infarcts due to the escape of placental giant-cells such as Schmorl has described.

#### TREATMENT OF WOMEN AT THE MENOPAUSE.

Drake (*Amer. Medical Quarterly*, June, '99). The treatment of patients at the time of the menopause depends upon the conditions and characteristics of individual cases, climate, marital and home life, and constitutional dyscrasias and idiosyncrasies. The following are a few hints applicable to all: As little waste of nervous energy as possible; as few cares and responsibilities as possible; a cheerful home and companionship; moderate and daily exercise, but not to exhaustion; frequent bathing to free the pores of poisonous accumulations; all excretions should be free and regular; massage where vitality is low and no exhausting hemorrhages have occurred; change of climate or scene where there are unhappy home surroundings; medicines should be selected for each case, as different symptoms appear. A vaginal examination should be advised in all cases as often as every three months, to be sure that no disease of the pelvic organs exists. The return of the menses after a period of several years is to be taken as a warning of some serious condition existing, and great care should be used in examining to find the cause.

## OPHTHALMOLOGY.

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BY JAMES W. INGALLS, M.D.

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### THE EYE AFFECTED BY PATHOLOGICAL CONDITIONS OF THE TEETH.

Lagleyze (*Archives D'Ophthalmologie*, March, 1899) claims that the following ocular affections may sometimes be of dental origin: Epiphora, blepharitis, conjunctivitis, keratitis, glaucoma, spasm of accommodation, paralysis of accommodation, mydriasis, blepharospasm, strabismus, neuralgia, photophobia, and amblyopia. Caries or periostitis of upper molars is not an infrequent cause of a diseased condition of the eye. Hypersecretion of the lacrimal gland is often of reflex origin, the dental irritation being communicated by filament of the orbital branch of the superior maxillary division of the trigeminus.

Many cases have been published which show the possibility of glaucoma being a reflex affection. Mention is made of a case in Abadie's clinic; sclerotomy had been done twice without any beneficial results. However, upon the extraction of a diseased tooth, the intra-ocular tension was quickly relieved. Paralysis or paresis of accommodation may be caused by odontalgia. It is a common observation that dental neuralgias cause a hyperesthetic condition of the eye. Galezowski says that monocular mydriasis, eight times out of ten, is due to dental affections. However, L. regards this statement as an exaggeration. Redard, Mitchell, and others cite cases of strabismus occurring in infants during the period of dentition.

Vasomotor paralysis, especially in children, causes a congestion of the conjunctiva and lessens its resisting power, and, as a result, the eye is more susceptible to the action of micro-organisms. Power reports a case of ulcer of the cornea and anesthesia of the parts supplied by the ophthalmic branch. After extraction of diseased teeth, the corneal trouble was much improved and the anesthesia entirely disappeared. Abadie is of the opinion that stricture of the lacrimal duct is very frequently caused by a periostitis extending slowly up the superior maxilla. It is considered advisable to carefully examine the teeth in all ocular diseases which are of doubtful etiology and which do not readily yield to the ordinary methods of treatment.

## OPERATIVE TREATMENT OF HIGH MYOPIA.

Wuerdemann (*Amer. Jour. of Ophth.*, April, 1899), at the fourth annual meeting of the Western Ophthalmological Association, read a paper on the advantages, disadvantages, and indications for the operative treatment of myopia. His conclusions are as follows:

1. Surgical treatment of myopia should be limited to cases over 12.00 D., and who suffer great inconvenience from their correcting lenses.
2. The operations are mainly indicated in young adults.
3. Cases having considerable changes in the ocular structures, such as progressive choroiditis, fluidity of the vitreous, or detachment of the retina are not proper subjects for operation.
4. The dangers of operative interference are more than counterbalanced by the results to be achieved, which are: Increased visual acuity, enlargement of the visual field, and extended use of the eyes.

## ENUCLEATION OF THE EYEBALL.

In the last Annual Report, 1898, of the Transactions of the Ophthalmological Society of the United Kingdom, an exceedingly interesting report was submitted by a committee appointed to consider the relative value of simple excision of the eyeball and the operations which have been substituted therefor. One of the questions considered was the frequency of meningitis after excision. Reports from a number of large hospitals show that out of nearly 11,000 excisions there were only seven cases of meningitis. The committee regarded it as highly probable that, in a certain proportion of the cases in which the patients have died from meningitis after excision of a suppurating eye, the meningitis began before the operation, and that the patients would have died had no operation been performed. Among some of the disadvantages of Mule's operation may be mentioned that in quite a number of cases there was excessive reaction, sloughing of the sclerotic, and subsequent pain and irritation in the stump.



## PROCEEDINGS OF SOCIETIES.

### BROOKLYN SURGICAL SOCIETY.

*Regular meeting, April 6, 1899.*

#### EXCISION OF A PORTION OF THE MUSCULOSPIRAL NERVE.

Dr. Russell Fowler presented a patient who had had a fracture of the external condyle of the humerus, which occurred about five weeks before the 28th of July. On July 26th he was admitted to the hospital for treatment with musculospiral paralysis, for which, operation was done on the 28th. There was a full-curved incision to the bend of the elbow, and the nerve was found to be compressed by callus and partly cut through. The compressed portion and that portion which still remained were removed, amounting to one fourth of an inch. This was done where the nerve divided into the radial and the interosseous. The radial and the interosseous were then sutured to the freshened upper end of the musculospiral with split-kangaroo tendon, and the wound closed. The supinator longus was not involved, as this was below the branch which goes to that muscle.

Thirty-four (34) days after the operation the patient was able to extend the fingers, and had sensation; and was also able to raise the wrist. The reason for presenting this case is because of the rapid return of the motion and sensation to the parts.

#### EXCISION OF THE KNEE-JOINT FOR TUBERCULOUS ARTHRITIS.

Dr. L. S. Pilcher presented a patient for the purpose of demonstrating the condition in a rather early period after excision of the knee-joint. For nine years the disease had been present in this joint, and the patient had been, during that period of time, subject to treatment of various kinds. He finally entered the Methodist Hospital nine weeks ago, at which time the knee presented all the characteristic appearances of an advanced destruction of the knee-joint by tuberculosis. He was subjected to a complete, typical excision of the knee-joint, the range of section involving the head of the fibula as well as the head of the tibia and a generous slice of the lower end of the femur. There were three points in the operation which the speaker thought worthy of being referred to at that time:

The first was the method of exposing the joint. For the past ten years in all the cases of this kind in which he has had occasion to interfere he has adopted the horseshoe incision, the convexity of the horseshoe being above the joint. Such an incision as that enters at once into the bursal extension of the synovial sac, below the tendon of the quadriceps, the two extremities of which lend themselves readily to the natural drainage of the lowest part of the cavity, which is opened in the incision. At the close of such an operation there is usually a redundancy of the lower flap, for the parts have been shortened by the removal of one and one-half or two inches of bone; and as the flap is redundant, the lower part has to be trimmed off to make a fit; and the ultimate result of such an operation is shown in the result which is seen in this patient.

The second point is concerning the shaping of the bones for subsequent coaptation. The speaker said that he was in the habit of making a shallow "V"-shaped incision with the saw in the lower bone—that is, a "V" with the gutter running from side to side across the joint; and then in shaping the lower end of the femur he makes a slight tenon so as to fit into the shallow "V"-mortise that has been created in the upper surfaces of the lower bones. That gives a larger surface for bone apposition; and also facilitates securing healing with a slight angulation, which is desirable in these cases.

The third point is the use of no fixation apparatus in the shape of wire sutures, or nails, or drills to hold the bones together, but simply to hold them together by periosteal and fascial sutures. This is accomplished by chromicized catgut passed through the periosteum and remnants of fibrous aponeuroses which present themselves around the edges of the bones. In this way there is no foreign body left in, nothing to excite irritation in the bones or bring about a progressive osteoporosis. The progress of these cases may be expected to be uncomplicated. Such had been the case with the patient presented. It was nine weeks since the operation, firm union had taken place, and he was able to stand and walk. The leg was somewhat shorter than the other, of course.

In reply to a question concerning the use of drainage, the speaker said that he did not employ it, but the two angles of the wound were not sutured, but left open for about  $\frac{1}{2}$  inch, so that a natural escape of the wound secretions was permitted. This case healed with uncomplicated primary union.

In reply to the question as to whether there was an abscess prior to the operation, Dr. Pilcher said that there was considerable

purulent, broken-down tubercular material, but no proper abscess. The speaker further said, in reply to a question concerning putting up the bones at an angle, that that was a matter of convenience of function. If there is a slight angle, 10 to 15 degrees, the foot is not so much in the way, the step is more elastic, and walking is less awkward. It is purely a matter of improvement in the function of the limb. In the case that was presented it was noted that that angle was not present. It was present when the patient left the operating-table, but, in the gradual loosening of the bandages about it, it had become straightened out.

#### PERFORATING ULCER OF THE DUODENUM.

Dr. J. P. Warbasse reported the case of a man sixty-five years of age, who was brought into the Methodist Episcopal Hospital the day before, with the following history: He had been seized three days before admission to the hospital with pain about the umbilical region, which gradually extended until he had pain over the whole of the abdomen. His previous health had been fairly good. He was naturally a robust man, who had had no sign of previous abdominal trouble. His pain became worse, and at the end of two days he developed vomiting and a considerable degree of tenderness over the whole of the abdomen. During the third day the abdomen became distended, and he developed the vomiting characteristic of intestinal obstruction. He was seen by Dr. George Drury, who diagnosed perforating ulcer, and had him sent to the hospital. The temperature was  $101\frac{1}{2}$  and pulse-rate 136, respiration 30. Examination by the reporter showed signs of general peritonitis; other than this no localized symptoms could be discovered pointing to the origin of such peritonitis. He made a median exploratory section, and immediately upon opening the peritoneum a rush of bloody serum through the wound took place. As the operation proceeded, it was found that the whole abdomen in all of its parts was filled with blood and blood-clots. The origin of this bleeding was not immediately discovered. The clots were taken from the pelvis and from both right and left sides of the abdomen. As the blood was cleaned away it was found that the largest collection of clots came from above, from the region of the liver. Further exploration showed the appendix vermiformis normal. Underneath the liver the omentum was closely adherent to the small intestine, and also to the lower surface of the liver, and to the stomach, so that about the region of

the duodenum there was found a mass of adhesions binding the duodenum with the duodenal end of the stomach to the lower surface of the liver, and from beneath these adhesions clots of blood were removed. The bowels showed a considerable degree of redness, distention, and the signs of a beginning general peritonitis. The odor of the fluid contained in the abdomen was that peculiar to infection with the *bacillus communis coli*. As the blood was cleared away and the exploration continued, it was found that there was no bleeding going on. The clots were old and dark and there was no sign of fresh bleeding. The diagnosis of perforating ulcer of the duodenum was made and it was assumed that the adhesions about this effectually closed the opening and that hemorrhage had resulted from erosion of some duodenal blood-vessel. Inasmuch as the condition of the patient would not warrant further operative procedure, the abdomen having been cleared of clots, drains were passed behind the liver and the mass of adhesions about the duodenum and also in front of same, and the abdomen was closed. The patient's condition at the end of the operation was about the same as before, the vomiting peculiar to general peritonitis continued, and he died on the following morning. The necropsy showed in the middle of the duodenum an ulcer, one inch in diameter, closed by adhesions of omentum and plastic exudate. Close examination showed the mucous membrane to be eroded about the circumference of the perforation through the wall of the duodenum. The ulcer presented the appearances of a long-standing condition, yet until perforation took place it had given rise to no symptoms whatever. The gall-bladder and ducts were normal.

## DISCUSSION.

Dr. M. Figueira said that the absence of symptoms is not unusual both in perforations of the stomach and duodenum. There are two varieties of perforations of the stomach and duodenum: the acute perforating ulcer which develops without any symptoms and an ulcer of the stomach or duodenum which gives symptoms of its presence. Niemeyer, in his book on the practice of medicine, speaks of the case of a noted German practitioner under his care, who died in this way, having presented no symptoms of anything of this kind. This was under the care of Niemeyer, a man of great ability, and it escaped his observation.

In St. Catharine's Hospital there is a specimen of such a case.

A patient was admitted with very slight symptoms, which suddenly developed into peritoneal symptoms, and on post-mortem examination it was found that she had a round, perforated ulcer of the stomach and peritonitis. And what happens in the stomach happens also in the duodenum in acute perforating ulcer.

Dr. W. C. Wood agreed with the statements made by Dr. Figueira, whose experience had been the same as his. He had seen a boy of fifteen, in perfect health, after a slight indiscretion in diet, develop symptoms of ulcer. A man, whose diagnostic ability is unquestioned, made a diagnosis of mild enteritis, and within three hours after this the speaker was asked to see the patient, and found him in a condition of extreme shock. The shock was so great that he hesitated to attempt operation. In six hours he died. Dr. Wood was privileged to make an autopsy, and found the condition exactly similar to that reported to-night. He had hoped to get some information in regard to the etiology of this condition. He thought that we should always bear it in mind, particularly when there is extreme shock and prostration, which is characteristic of a perforation high up in the alimentary canal. He regarded these as the most distressing cases a surgeon can meet. He hoped for some information in regard to the theories held for the cause of these ulcers.

Dr. L. S. Pilcher had encountered a similar case in his hospital work during the winter, and had done a resection of the ulcerated work during the winter. He observed that during the eleven-years' work in his hospital service the first case of this kind appeared this winter, and within six weeks this second case followed it. In the other case a robust young man, a laboring man, arose in the morning supposing himself perfectly well, and had been so until that time. Leaving his room to go out to urinate he was attacked with sudden pain in the epigastrium. This pain continued, and he was seen by a physician. After twenty-four hours it was recognized to be of such a serious character that he was sent to the Methodist Episcopal Hospital. When he was received at the hospital he presented the symptoms of grave abdominal disturbance. Apparently something had occurred in the upper part of the abdominal cavity. As soon as possible the abdomen was opened by an incision in the median line above the umbilicus. The abdomen was found to contain turbid fluid of offensive odor. Upon drawing the parts away from the liver, the curvature of the duodenum was exposed, and there presented itself a small aperture, not more than one-fourth of an inch in diameter, through which was spurting

at the time, this same thin chocolate-colored fluid, which was already filling the abdominal cavity, and which we are accustomed to see regurgitated from the stomach through the mouth in cases of peritonitis. This opening was seized and sutured, and everything was cleaned up, and drainage was applied. After a few hours the man died, and the specimen showed the case to be one of perforating ulcer.

The speaker believed the etiology of these things to be thrombosis of the veins which drain a limited area of the wall of the gut, and, as a result of this there occurs a diminished resisting power, and digestion of the area involved. This venous thrombosis he believed to be the cause of these ulcers, a condition which was inclined to think a very frequent preexisting state in many cases of appendicitis.

Dr. H. B. Delatour said that he had seen eight cases of perforating ulcers, seven of the stomach and duodenum, and one of the transverse colon. The latter case particularly he wished to speak of. The patient had had symptoms of ulcer of the stomach and severe vomiting, and recurrence of the vomiting of blood, for a number of years; but for three years he had been entirely free of these symptoms. The speaker saw him on the third day of the attack, which gave all the symptoms of acute peritonitis. He operated and found a gangrenous appendix. It was removed, and a small drain placed in the wound. The patient recovered from the operation, and went along nicely; he was discharged on the fifth day, and again on the tenth. The speaker dressed him on the tenth day, in the morning, about eleven o'clock. At that time his condition was excellent. At one o'clock he suddenly went into collapse, had all the symptoms of acute peritonitis, and died about eight o'clock that evening. At the post-mortem examination was found a perforating ulcer of the transverse colon.

Dr. M. Figueira said that there was one condition which had not been spoken of that is very important in the etiology of these cases in connection with the thrombosis: that is, increased secretion of hydrochloric acid, which takes place in all of these cases. That is an increased secretion of the normal acid of the stomach, sometimes to a very marked extent, and that increases the digestive power of the stomach so that it produces this result.

Dr. Warbasse called attention to the character of the ulcerating process which had begun in the mucous membrane. The perforation does not carry with it the whole bottom of the ulcer. About

the perforation, a ring of tissue uncovered by mucous membrane can be demonstrated. Outside of the ulcer, at the opening, there can be seen a moth-eaten appearance where the mucous membrane has been destroyed.

#### SARCOMA OF THE LOWER JAW.

Dr. J. P. Warbasse presented a specimen from a patient whom he had operated upon in the service of Dr. Pilcher, in the Methodist Episcopal Hospital. Two and a half years ago the patient had a tumor in the lower jaw, which was diagnosed as epulis, a small tumor springing from the alveolar mucosa, slightly to the left of the median line, which had been removed by extirpation of the soft tissue only. She was free from recurrence until one year after the operation, when, at the site of the operation, a small tumor appeared, which gradually increased in size until she was admitted to the hospital, with the tumor which he presented. The tumor had been growing for almost  $1\frac{1}{2}$  years. During the past two months of its history, its growth has been much more rapid than at first. The operation which he did, consisted in sawing down on either side of the tumor into the lower jaw, and not resecting the complete segment of the jaw, but sawing down almost to the lower border, leaving a narrow bridge of bone, and then making a transverse cut with the chisel, and removing the included bone with the attached tumor. It will be observed that the tumor sprung from the soft tissue, but that it had encroached upon the bone-tissue of the jaw. There are developed in the tumor masses of cartilage, and in places it has undergone ossification.

Dr. J. M. Clayland read a paper on "Tetanus."

Dr. Charles H. Terry reported a case of osteotomy for vicious union of fracture of the femur and two cases of coccygodynia.

## BROOKLYN GYNECOLOGICAL SOCIETY.

Stated Meeting, Held April 7, 1899.

The Vice-President, ROBERT L. DICKINSON, M.D., in the Chair.

(Continued from page 511.)

Dr. John O. Polak: I would like to ask Dr. McNaughton whether there was any reason why one or both ovaries should not have been left. As the patient was a comparatively young woman, it would seem to be desirable.

Dr. L. Grant Baldwin: It seems to me, in such a case, I would try to dilate the cervix, after having removed by curette and cautery as much as feasible of the diseased tissue, and deliver the child *per vaginam*, for the reason that the woman was in such a bad condition, having lost so much blood prior to her operation. I would then try to improve her general condition and do a hysterectomy at a later date; this would afford a better opportunity to remove completely the diseased tissue. The fact that malignant nodules could be felt in the vagina would tend to substantiate such a procedure.

Dr. Dr. Jewett: I examined the patient before operation, and that Dr. Baldwin done so I feel sure that he would agree with me. It would have been impossible to deliver the woman by *vagina*. The whole canal of the cervix was as rigid as cartilage and undilatable. Of course, the cervix could have been incised but such incisions usually tear and the woman, too, would have been exposed to much greater danger than by hysterectomy. The course adopted gave her the best possible chance for life.

Dr. McNaughton: In reply to Dr. Polak's question, both ovaries were removed, because it took less time. The patient was in a bad condition, and it was desirable to save time.

In regard to the nodules in the vagina, I am not yet satisfied that they are malignant. I fear, however, that the patient would not survive the operation very long, for the pelvic glands were found to be involved.



## CLINICAL NOTES AND METHODS.

DR. CHAS. JEWETT.

*Repair of Injuries of the Pelvic Floor.*—For some time most of the extensive pelvic-floor injuries in my service at the Long Island College Hospital have been repaired at intervals of one or two days to a week or more after labor. This was necessitated in many instances by the fact that the women were not admitted till after labor. Late suturing proved so satisfactory in these cases that it was adopted for practically all extensive lacerations. Granulating wounds were found to unite perfectly when closed without vivifying at any time before they began to cicatrize. In patients becoming septic union very rarely occurs, even under immediate suturing. The advantages of late repair in severe injuries are several. The character of the injury is better defined, the work is not obscured by the bloody flow from the uterus, a good light, plenty of help, and ample preparation are possible. Thus the work is more exact and complete and restoration of the parts to their primal condition in nearly all cases results. When the wounds are repaired at the close of labor, often in insufficient light, at a time when the structures are more or less disturbed from their normal relations and the preparation inadequate, perfect restoration fails in a considerable proportion of cases.

The objections to late repair are that the patient is, perhaps, subjected to a second anesthesia, and that she is kept somewhat longer in bed. But these considerations are of minor importance.

The technique is substantially the same as that adopted by Emmet in the secondary operation, and in injuries not involving the sphincter is as follows:

Normally the posterior rests against the anterior vaginal wall. The center point of its lower end falls just below the meatus. Catching the posterior wall with a volsella at its center point close to the wound-surface, its lower extremity is held up against the anterior wall immediately behind the meatus. Thus a trough-shaped tear is developed, running up one or each sulcus as the case may be. The gutter-shaped wound is closed with interrupted sutures, introduced from the vaginal surface. Beginning at the upper angle of the tear they are applied in succession from above downward nearly to the skin surface. The other sulcus if torn is treated in like manner. The sutures are so laid that the loop or hight of each is nearer to the operator than the points of entrance and emergence. The plane of each is oblique to the su-

ture line. This has the effect, as the sutures are tied, to draw upward the sagging pelvic floor. The sutures are tied as fast as placed. A shallow wound of little more than skin depth now remains on the perineal surface. This is best closed with interrupted sutures introduced from the skin side. The entire length of the suture-line is carefully examined, and at every gaping point, on skin or mucous membrane, a superficial suture is applied. The skin-sutures are subject to very little strain. The vaginal sutures rest on structures much less sensitive than the skin, and the woman thus experiences comparatively little discomfort from the stitches. The anatomical relations are restored *ad integrum*, which is scarcely possible, except in superficial lacerations, when the suturing is done from the skin-surface. Notwithstanding the risk of infecting the wound by passing the finger into the bowel it is scarcely possible otherwise to guard against occasionally carrying the needle into the rectum. When in doubt I introduce the little finger of the left hand into the bowel as the needle is passed. This finger is rinsed frequently in the antiseptic solution and is kept from contact with the wound and the sutures.

The suture material which has given the most satisfactory results is silkworm gut. The ends are left of full length and at the close of the operation they are bundled and tied together and enveloped in cheesecloth to prevent irritation from friction. The nurse changes the dressing as required. Stitches of silkworm gut, if properly applied, may be left from fourteen to seventeen days. No suppuration occurs, and, with the exception of, perhaps, a slight lochial discharge, and the natural secretion, the suture-line will, at the end of that time be found dry. It is, of course, necessary that the stitches be not tight. To make allowance for swelling I usually leave them so that if drawn up after tying, the pointed end of a hemostatic forceps can be passed beneath the lifted portion of the loop.

To remove the sutures, the patient is placed in lithotomy position on a table or firm bed, and a Sims speculum introduced under the pubic arch.

When the sphincter is torn, the rectal mucous membrane and a little of the submucous tissue are first brought together with fine catgut sutures. The sphincter ends are then drawn out of their pockets with a tenaculum and are brought into close apposition with two or three No. 2 catgut sutures. The latter are passed in planes at right angles with the length of the lower end of the rectum. The two or three suture-ends on each side are bundled

together and held with clamped forceps. A silkworm-gut suture is now carried from the skin-surface directly through the center of the sphincter, about 1 cm. from its end, is carried across and passed down through the other end and out upon the skin-surface. A second suture is applied a little farther from the torn end of the muscle and passed in the septum just in front of the rectal mucous membrane, up around the upper angle of the rectal tear and down through the corresponding tissues of the opposite side. The buried catgut sutures and the two silkworm-gut sutures are now tied and the rest of the wound is treated as in injuries not involving the sphincter. When the septum is torn for more than an inch it is better to make the second supporting suture a crossed suture for more secure coaptation of the rectal edge of the wound (Kelly).

Of several sphincter injuries which have been sutured in the foregoing manner during the first six months, in not one has the muscle failed of perfect union.

Isolation of the sphincter-ends, as suggested by Kelly, in old lacerations, should be practised in fresh injuries as well, before applying the sutures. As he has pointed out, only in this way can perfect restoration of the muscle be assured. If the internal sphincter is torn, this, too, must be restored. Obviously, so delicate work as is required for this method of repair is seldom practicable in the conditions which usually obtain at the close of labor.

#### CATGUT SUTURES.

*Alcohol Gut.*—Gut prepared by boiling in alcohol, as the process is usually carried out, is not surely sterile, and its strength is impaired. With the following precautions the method will be found satisfactory in both these particulars. The gut is tightly wound in single layers on short bits of glass tubing, and the coils securely fastened at each end, best with a silk thread. The fat is removed in the usual manner by immersion for several days in ether. The coils after drying for twenty-four hours in a warm atmosphere, as over a stove, and transferring to the glass tubes are covered with absolute alcohol for twenty-four hours. The alcohol is replaced with a fresh supply before sealing the tubes. By this means the gut is thoroughly dehydrated, and the sutures lose little or none of their tensile strength in the subsequent boiling. The tubes after sealing are exposed for an hour or more to a temperature of 250° F. in an autoclave. If the precaution

is taken to envelope each tube separately in a fold of towel or cheesecloth, to prevent contact with its neighbor, a moderately thick glass will seldom break in the sterilizer. The usual file-mark on the tubes supplied by the dealers causes fracture if the tube is reheated. If it were omitted the surgeon could be more sure of his material by reheating it. The alcohol method, however, is somewhat expensive, is not free from danger of explosion, and if the sealed tubes are used it requires the services of a skilled glass-blower.

**Cumol Gut.**—Excellent gut, sterilized by the Cumol method, at  $330^{\circ}$  F., is furnished by two different commercial houses. By one the suture is packed in small sealed paper capsules. By the other it is enclosed in a sealed paper envelope and this again in another envelope. This material, if the packing is managed safely, is undoubtedly aseptic. I have used it in all kinds of work and have had no reason to doubt the thoroughness of the preparation. The gut is remarkably strong, and if the packages are not exposed to moisture will doubtless remain sterile for an indefinite length of time.

**Formalin Gut.**—Formalin catgut has recently come into more or less extensive use. Dudley, in his "Diseases of Women," just published, recommends it, and gives his formula for its preparation. His method, like many others that have been published, has failed in my hands, by destroying the tensile strength of the sutures. First, in a recent paper advocates the formalin process, but his method is complicated. Formalin sutures of full strength and sterile to culture tests may be prepared at a minimum cost of time and trouble as follows: The gut is wound on sections of glass tubing as already described. After extraction of the fat with ether it is placed in a sterile jar and covered with equal parts of 95 per cent. alcohol and 40 per cent. formaldehyd, the formalin of the shops. The jar is securely closed and allowed to stand for six days. The alcohol and formalin are then poured off and the gut is boiled in the normal saline solution for twenty minutes. The boiling may be repeated on the following day. The coils are then transferred to sterile bottles with sterile forceps and kept in alcohol. If preferred, the gut may be boiled just before using. The material thus prepared will be found as strong as it was primarily. Formalin catgut stands in the tissues for about the same length of time as chromated gut.

## ECLAMPSIA.

The following cases from my hospital service of the last three months are of interest in connection with some of the questions raised in the discussion at the last meeting.

*Case I.*—Woman; thirty years of age and a primipara pregnant about eight months; had been edematous and albuminuric for several weeks. History of headaches for two or three months. Violent headache for twenty-four hours before admission. Eight or ten convulsions had occurred before reaching the hospital. The pulse was then 124 and the temperature below 100° F. Continuous vomiting. Cervix partially dilated. Urine highly albuminous. Treatment consisted in the use of fluid extract of veratrum viride  $\mathfrak{m}$  xv, hypodermically, elaterium, hot-air baths, submammary and rectal injections of the normal saline solution, manual dilatation of the cervix, and delivery with forceps under chloroform. Secondary hemorrhage occurred on the fifth and again on the following day. Recovery.

*Case II.*—Patient, twenty years of age, pregnant for the first time. On admission she had had three convulsions. Urine contained 50 per cent. of albumin by Esbach's test. Little or no dilatation of the cervix. There were in all ten convulsions. Temperature 103° F. The treatment was similar to that in the preceding case. Consciousness returned after two or three days and the patient left the hospital in little more than the usual time. Recovered.

*Case III.*—Primipara; twenty-eight years of age, admitted March 28th. History of headaches for a week and of convulsions for twenty-four hours before admission. Had had twelve paroxysms. When brought in her pulse was 122 and temperature 103.3° F. She was comatose, restless, and vomiting; the skin was dry, the lungs were markedly edematous, and no urine was found in the bladder. The fetus was dead. The cervix admitted one finger.

Fifteen minims of fluid extract of veratrum viride were given subcutaneously, an enema of Epsom salts was administered, a hot-vapor bath was continued for forty minutes, and nearly a pint of the normal saline solution was injected behind each mammary gland, and the injection subsequently repeated. Profuse diaphoresis followed and the pulse fell to 65. Labor-pains were active under partial chloroform narcosis, and the child was delivered spontaneously. The urine became abundant, the temperature

normal, and consciousness returned promptly. Recovery followed.

*Case IV.*—Three para, aged nineteen years. History of headaches for a month. Delivered spontaneously soon after reaching the hospital. Had five convulsions, two of them post-partum. Urine very scant, specific gravity 1016, and containing 10 per cent. of albumin, urea 1 per cent. Treatment as in the foregoing cases. Lobar pneumonia developed on second day. Recovery.

#### DISCUSSION.

Dr. Baldwin: In regard to the preparation of catgut, it has always seemed to me that a commercial house, which makes a business of it, could put up catgut better than I can. A house of good reputation can surely be trusted to do the work thoroughly. During the past five years I have used catgut prepared by such a firm, and it has always given satisfaction. I have never been able to trace a case of sepsis to it.

Dr. H. P. de Forest: Last summer in major operations in the Seventh Army Corps, the catgut which is prepared by Johnson & Johnson was used with good results. In many instances in which sepsis is attributed to catgut, it is really due to a lack of cleanliness on the part of the operator or of his assistants. If we could boil our hands as we boil our catgut, we would do truly aseptic work—as it is, catgut is infected in handling it after its preparation. I have tested catgut prepared by the various methods and it has nearly always remained sterile in culture media. Catgut prepared in formalin or alcohol should give excellent results. The former seems better to preserve the elasticity of gut.

Dr. W. B. Chase: I can speak of catgut from a clinical standpoint. From my experience in hospitals and private practice, I think that catgut is infected at the time of operation by being handled by nurses and others whose hands are not sterile. I use but two kinds of suture material, *viz.*, silkworm-gut and catgut, the latter plain and chromicized, and think that these meet every indication. If catgut is washed free of chemical poisons and dirt and then sterilized by heat at 250° Fahrenheit, I think we may feel entirely easy from fear of infection from this source. In years I have not left a silk ligature in the abdominal cavity. I use catgut for this purpose. The statement has been made that catgut will not last long enough to be of service as a ligature. This is erroneous, for the plugging of a blood-vessel occurs soon after

a ligature is applied, and any forty-eight-hour catgut would serve the purpose. Any conscientious nurse who has been properly trained should be able to prepare catgut.

Dr. McNaughton: I agree with Dr. Baldwin that a firm that makes a business of preparing catgut is apt to do it so thoroughly that their products can be relied upon. I prefer catgut put up in alcohol to that in a dry form, because I think it is more liable to remain sterile. I have seen sutures of No. 3 catgut (St. John Leavens' chromicized) in the cervix three weeks after operation, and I now use No. 2 in work upon the cervix. In operations upon the perineum, much trouble will be saved if the sutures are not passed through the skin; the catheter will not be required in most instances, and this is very much to be desired, for in spite of great care, catheterization is apt to be followed by cystitis. I am in favor of closing lacerations immediately or soon after labor. A good light can be had anywhere and at any hour by the use of a head-mirror or an electric light. To my mind a rent is more easily and accurately repaired by an immediate operation. I draw my sutures a little tighter than Dr. Jewett does, to allow for a certain amount of involution which takes place in the vaginal wall. I use catgut in preference to silkworm-gut because the latter is hard and resisting, and fluids are more likely to follow its course and infect the wound; besides, it has to be removed.

Dr. Polak: In regard to sewing up tears of the rectal wall, I have found that the fine ends of silkworm-gut strands are excellent for this purpose. One end of the suture should be left long and brought out through the anus to facilitate its removal. As to the immediate repair of lacerations, in private practice one meets with a great deal of opposition if it is suggested that they be left unclosed over night. There is no doubt of the desirability of leaving such tears to be closed on the following day or day after, as recommended by the author. Still, it may be said that the immediate operation closes what may be avenues of infection. All patients do not have trained nurses and all trained nurses are not clean ones, so it is well to guard against infection in every possible way. In regard to the use of catgut sutures in the perineum, I do not think they are to be relied upon if primary union is expected. Catgut has one place in surgery, and that is as a buried suture. On the surface-skin or mucous membrane, where it is exposed to discharges pouring over it, as in the perineum, it is not so satisfactory. I have yet to see a case of complete failure where silkworm gut was used. This suture material ties readily and is

rendered absolutely sterile and comparatively soft by boiling in creolin solution. By properly protecting the ends of the sutures after a perineal operation, the patient may sit up to urinate or defecate without doing harm.

Dr. Dickinson: I have been very much interested in the paper, because the author's views in regard to late suturing of lacerations are similar to those I expressed some years ago. I then stated that late suturing gives most excellent results, and based that statement upon nineteen cases of laceration into the rectum which were so treated. Most of these cases were seen in consultation from one to fourteen days after labor. A good result followed the late operation in all but two cases—one in which the patient got out of bed to defecate and another which was profoundly septic. Even as late as two weeks after labor the tears are easily found and the edges approximated after freshening them by means of a curette. It seems to me that it is feasible to do the operation at any time within the first seven days. The late operation has several advantages; there is no danger of producing hemorrhage by relaxing the uterus with chloroform; the patient is not in the excitable condition in which she is immediately after delivery, the field of operation is not obscured by blood running over it, and fascia and muscles can be brought together end to end better than by the immediate operation. A good rule to follow is this: All minor injuries should be sutured at once, but more severe lacerations, as when the sphincter ani is involved, should be repaired later, say, on the second or third day. In cases in which the patient has lost a good deal of blood or in which the uterus is much relaxed, the woman is not in a condition to be anesthetized at once for fear of renewed bleeding. This is the plan which is followed at the Kings County Hospital.

As to suture material, I quite agree with Dr. Chase that with silkworm-gut and catgut we have all that is necessary. I use catgut, except where there is great strain upon the tissue, and chromicized catgut wherever it can be trusted. Plain catgut in the rectal mucous membrane is not to be depended upon, because it soaks up so rapidly; therefore, it is better to use fine silk or fine chromicized gut. I am becoming doubtful as to the value of buried sutures in the sphincter ani, for I have seen cases in which a small temporary fistula has formed.

As to the shape of the sphincter ani, there is no such thing as a perfectly round sphincter, although some of the fibers of the muscle may go across the median line. The sphincter never gives away



in the median line—a tendinous raphe does not tear—the laceration is always to the right or left of it. By studying my cases and making sketches of them, I have been led to believe that the sphincter ani in the living subject is very different from that found in the dissecting-room or in the frozen section. In the dissecting-room it is a flat band; in the frozen section it is in a bundle, while in the living subject it is dragged together in a loose, round body about the size of the last joint of the little finger.

Dr. Jewett, in closing: Mercantile houses, as Dr. Baldwin suggests, no doubt have better facilities than the surgeon for preparing surgical material, but there is an element of uncertainty as to the operatives. Commercial catgut should be put up in a form to admit of resterilizing before use.

Dr. McNaughton ties his perineal sutures tight because of the involution which is to take place in the structures. Involution of these parts, however, does not go very far in ten to fourteen days, while swelling remains for several days after labor. He thinks silkworm-gut more likely to irritate and lead to suppuration than catgut. But the advantage of silkworm-gut is that it is non-absorbent and not putrescible, while catgut is both absorbent and putrescible, and, therefore, infects the needle-tract in the surface work.

The fine ends of the silkworm-gut mentioned by Dr. Polak have been utilized, I am told, by eye-surgeons.

I understand Dr. Dickinson to say that some of the muscular bundles of the sphincter run across the median line, making a complete circle. Dr. Browning's teaching is that no muscular fibers cross from one ventral plate to the other. We evidently have something to learn yet about this and certain other muscles of the pelvic floor. The sphincter, as I have seen it in Dr. Browning's dissections, is made up mainly of two elliptical bands, whose muscle-fibers are nowhere continuous across the median line. The bands come into close proximity side to side anteriorly and posteriorly, but they do not blend with each other. These bands do not, as stated by some anatomists, blend with the bulbocavernosus. The latter muscle is shut off from the former, as Dr. Browning points out, by the fold of the fascial layers at the perineal ledge. Yet the sphincter receives a considerable proportion of fibers from the pubic bundle of the levator.

We are all aware that a ring, seemingly of sphincter muscle, can be felt in the living subject entirely around the anus. How

this is to be explained consistently with the elliptical shape of the sphincter as seen in dissections is a question for the anatomist.

Dr. Dickinson: Many of the anatomists picture the sphincter as if it were circular, and as if certain fibers run into the raphe before and behind. All anatomists say that a few fibers do cross the median line. By this I suppose they mean that there is a certain amount of dovetailing of the fibers.

#### PHLEGMASIA IN MOTHER AND CHILD.

Dr. Polak: I have a case to report which I believe is unique—at least, no mention is made of similar cases in the authorities which I have had opportunity to consult. The patient, Mrs. F., twenty-one years of age, mother of three children, had a precipitate, premature labor, with slight laceration of the perineum. The child had been delivered one hour before my arrival. The placenta was expressed by the Credé method. Convalescence was normal for the first twelve days, although the evening temperature reached 100° or 100.4°. On the evening of the twelfth day the patient complained of pain in the left labium and the temperature went up to 102°. An abscess of the left Bartholini gland was found. Spontaneous rupture of the abscess occurred on the following day, before my visit. The opening was enlarged and the cavity cleansed and cauterized. On the sixteenth day a left saphenous phlebitis developed, with uncontrollable pain.

The child was small at birth, weighing but  $3\frac{1}{8}$  pounds, but gained steadily. The cord fell off on the sixth day, leaving the stump dry and clean. The rectal temperature was normal until the eighteenth day, two days after the development of the phlebitis in the mother, when it reached 102°. Examination showed a clot in the left saphenous vein similar to that in the mother, and a phlegmasia developed. An abscess formed later in the child's foot and was opened. Both mother and child recovered.

The interesting points are the question of the avenue of infection and the fact that both mother and child were affected precisely in the same way. The child was clean-looking and had no apparent abrasion of the skin; there were no evidences of infection of the umbilical cord, and the temperature was normal during the first eighteen days after birth. I would like to ask Dr. Jewett if he thinks the infection could have been conveyed through the mother's milk?

## DISCUSSION.

Dr. McNaughton: I would like to ask Dr. Polak what he considers to be the normal temperature of a child. I had a discussion recently with a physician who claimed that the temperature of a child is lower than that of an adult. I think it is usually a little higher than adult's during the first several months of life, and subject to normal variations—a little lower in the morning than at night.

Dr. Jewett: In regard to the normal temperature of a child, I would say that it is the same as an adult's, but more easily disturbed. It certainly is a most remarkable coincidence that the child should develop the same condition as that from which the mother was suffering. If there were no excoriations upon the child, I think we may assume that infection was carried to it in the mother's milk.

Dr. Polak: I consider 99.2° or 99.3° to be the normal temperature of a child. That is what it was in this case and in all others in which the temperature was noted. It is a trifle lower in the vagina than in the rectum.

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*HISTORICAL DEPARTMENT.*

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*LIEUTENANT JAMES WOOD, M.D.*

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Dr. Wood was born at South River, N. J., 1869. His father was a well-to-do business man of that ancient town, and gave his son every advantage for his early education. His preliminary training was mostly procured at the schools of New Brunswick, and he graduated in medicine at the Bellevue Hospital Medical College, 1891. He came to Brooklyn and opened an office at 162 St. John's Place in 1891 soon after graduating, and remained here till 1897, when he removed to Newburgh, where his family had formerly lived, and where he had many acquaintances. The six years of his life spent in this city were busy and eventful for Dr. Wood. He was vice-president of the Long Island Medical Society, an active member of the Medical Society of the County of Kings, before which he read several important and interesting papers. One on "Tea and Its Use and Abuse," another on "The Treatment of the Insane." He was on the staff of the Cen-

tral Dispensary, and had charge of the Consumptives Home. He lectured before the Pratt students and before the Brooklyn Institute. And all this while was a constant contributor to the various medical journals. But the work which seemed to give him most pleasure, and into which he threw himself with the greatest zeal, was in conjunction with the Rev. J. M. Farrar, D.D., pastor of the First Dutch Church, the organizing of an association among the young men of that church and neighborhood known as the P. M. M. fraternity, and the securing and fitting up of rooms in the Dutch Arms for their accommodation and rational entertainment. The central idea seemed to be to have a room where the young men of the Park Slope could meet in all the joyousness of youth and good fellowship under grace, moral influences, and away from the saloon and brothel, with pleasant social entertainment and intellectual stimulation.

Surely that was a worthy object. A scheme which might well be imitated by every church in the land, and a mind which could conceive and successfully carry out such a plan was of no ordinary type.

Dr. Farrar, his pastor, and all who came in contact with him at this time speak of him in the most loving way. Indeed, he seems to have been an unusual man. Ambitious, perhaps, but enthusiastic, possibly romantic and idealistic, but an idealist of a noble type. His aspirations were upward and for good. In 1897 he left Brooklyn and moved to Newburgh. Here he was tendered a public dinner and presented with a loving cup by his friends, and exhibited the same activity in medical matters that he had done in Brooklyn. He was made a member of the local Board of Health. He became an active member of the Newburgh and the Orange County Medical Societies, and was appointed on the staff of the Matteawan Hospital, and, at his earnest solicitation he was appointed surgeon to the 202d Regiment of the New York Volunteers. When war with Spain was declared he enlisted with his regiment with an enthusiasm unknown to baser minds, and was commissioned as lieutenant, assistant-surgeon of the United States Army. With his regiment he went to Cuba, and here he showed the same characteristics he had in Brooklyn and Newburgh. Brave, patriotic, and enthusiastic he sought the good of his fellows rather than his own ease and comfort. His worth was recognized, for at the time of his death he was acting governor of the military hospital, and was the sanitary inspector of Guanajay, a town some forty miles from Havana. Here he died in the

service of his country, loved and lamented by his comrades, and deeply mourned by a large circle of friends. Died of that putrescent fever which has hurried so many of our brave soldier-boys into an untimely grave. His remains were brought on to Brooklyn, and the last funeral rites were performed over them in the church and by the friends he loved so well, and was finally laid to rest among his kindred at old South River with appropriate military and masonic ceremonies.

"The boast of heraldry, the pomp of power,  
And all that beauty, all that health e'er gave,  
Await alike the inevitable hour.  
The paths of glory lead but to the grave."

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#### DE WITT CLINTON ENOS, M.D.

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It is a pleasure to record the life work of one who is spoken of by those who are living, and who received the benefit of his instructions, as one of the brightest men in the profession of his time, qualified to impart to others that knowledge which he possessed, and so to present the subject matter under consideration that the student became interested and impressed with the fundamental facts upon which to build his future professional attainment.

Dr. Enos was born at De Ruyter, Madison County, N. Y., March 17, 1820, and died in Brooklyn, N. Y., December 14, 1868. His grandfather was Joseph Enos of Richmond, R. I., his father Davie C. Enos of New Lebanon, Columbia County, N. Y., and his mother Polly Judson of Newtown or Fairfield County, Conn.

He attended the public schools at West Eaton, N. Y., De Ruyter Institute, and Eaton Academy, N. Y., until 1840; for a few years he taught school at Dansville, N. Y., and began the study of medicine at De Ruyter under the preceptorship of James Whitford, M.D., in 1843, receiving the degree of M.D. from the College of Physicians and Surgeons, New York, in 1846.

He practised medicine in New York during the years 1846-47, in the latter year removing to the city of Brooklyn.

In 1852 he married Miss Anna Fredericka Trask, a daughter of Alanson Trask of Brooklyn, N. Y. Three children were born—Alanson Trask, Hetty Marquand, and Frank Enos.

Dr. Enos was appointed surgeon of volunteers by Governor Seymour in 1863, and from 1852-68 was surgeon to the Brooklyn

City Hospital. Professor of Anatomy Long Island College Hospital, 1860-66, Professor of Operative and Clinical Surgery, Long Island College Hospital, 1867-68. His connection with the Medical Society of the County of Kings dates from 1859; vice-president in 1861, president in 1863, and censor 1864-65. He was one of the original members of the New York Academy of Medicine in 1847, New York Pathological Society and the Brooklyn Medico-Chirurgical Society 1856-66.

#### MEDICAL PAPERS.

Deformity of the Feet, Plaster-Paris Treatment, 1863; and from 1859-1865, he reported the following cases at the meetings of the Medical Society County of Kings:

Aneurism of the Aorta, Atelectasis, Cancer Encephaloid, Calculus Encysted, Diphtheria, Disarticulation of the Wrist, Dislocation of the Elbow-Joint, Dropsy, Abscess of the Epiglottis, Specimens of Epithelioma, Ununited Fracture Treated by the Drill, Hemorrhage from the Bowels, Strangulated Inguinal Hernia; Hydrocephalus Complicating Labor, Hydro-Thorax, Inflammation of the Brain, Intra Pericardial Cyst, Metro-Peritonitis, Nephralgia, Pustula Malignant, Parturition Complicated with Diphtheria, Operation for Femoral Hernia and Spiculæ of Bone from Wound, Calcareous Tumor, Ulceration of Large Intestines.

WILLIAM SCHROEDER, M.D.,

*Secretary of Historical Society.*

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#### NEW BOOKS AND BOOK NOTICES.

*All books received by the JOURNAL are deposited permanently in the Library of the Medical Society of the County of Kings.*

A TEXT-BOOK OF OBSTETRICS. By Barton Cooke Hirst, M.D. Pp. 848. Philadelphia. W. B. Saunders. 1899.

The author of this book is one of the few men in this country whose practice has been devoted exclusively to obstetrics and gynecic surgery. In Europe both branches of practice are frequently included in the same specialty. In this there is an obvious advantage. The obstetric art is largely surgical, and the obstetrician is a better obstetrician who is also an expert gynecologic surgeon. Dr. Hirst's work is all we should expect from an author of his breadth of experience and training. It is well

arranged, strongly written and the subject is presented in a clear and practical manner. The writer's views are sometimes at variance with commonly accepted teachings but this is to be expected of an author of Dr. Hirst's marked individuality. The work is in all respects a valuable addition to our list of obstetric text-books.

**A TEXT-BOOK ON PRACTICAL OBSTETRICS.** Egbert H. Grandin, M.D., with the collaboration of Geo. W. Jarman, M.D. Second edition revised and enlarged. Philadelphia, New York, and Chicago. F. A. Davis & Co. 1898.

The appearance of the second edition of this excellent work at a time when so many competitors have just come into the field is evidence of the esteem in which the authors and their teaching are held by the profession. Several important improvements have been introduced. The text-book has been revised, especially in the subjects of obstetric surgery and of the puerperium and new illustrations have been added. The mechanical execution of the book is of the same high order as in the first edition. We bespeak for the new issue a greater success even than was attained by the first.

**OBSTETRIC NURSING.** By Anna M. Fullerton, M.D. Fifth Edition. Philadelphia. P. Blackiston & Co. 1898.

This is in many respects an excellent manual. Its value is somewhat impaired, however, by the fact that the instructions given are often indefinite, inexact, and sometimes erroneous. The illustrations and the general makeup of the book are fairly good.

**THE PRINCIPLES OF BACTERIOLOGY.** A Practical Manual for Students and Physicians. By A. C. Abbott, M.D., Professor of Hygiene and Director of the Laboratory of Hygiene, University of Pennsylvania, Philadelphia. Fifth edition, enlarged, and thoroughly revised. 585 pages, 109 illustrations, of which 26 are colored. Cloth, \$2.75, net. Philadelphia and New York. Lea Brothers & Co.

To say that the fifth edition of this excellent work is an improvement upon the former editions, is to testify to its worth as a text-book which has taken foremost rank in the schools and laboratories of the country. The addition of colored illustrations and the enlargement of the chapters on technique, disinfection, infection, and immunity, greatly increase the value of the work.

E. H. WILSON.

**MANUAL OF SKIN DISEASES.** By W. A. Hardaway, M.D. Pp. 550. Lea Bros & Co.

We have examined this volume with some care and find it quite up to the standard of ordinary compilations of this nature. The text is full and clear and the illustrations are of the same order of merit. The arrangement of diseases in alphabetical order while not entirely scientific has its conveniences for the student and the busy general practitioner, and the book can be safely commended to them.

The author's comments on electrolytic procedures are naturally inter-

esting, coming from one who was a pioneer in that mode of treatment in skin affections and who has had such a large experience in them.

HENRY H. MORTON.

**CHEMISTRY.** General, Medical, and Pharmaceutical, including the Chemistry of the U. S. Pharmacopœia. By John Attfield, F.R.S. New (16th) Edition. In one Royal 12mo. volume of 784 pages with 88 illustrations. Cloth, \$2.50, net. Lea Brothers & Co., Philadelphia and New York.

A text-book that has stood the test of criticism and extensive use for over thirty years, and has reached its sixteenth edition, must have intrinsic merit.

Attfield's chemistry was extensively used in all English-speaking countries for many years. When we seek the cause for its great popularity, we find it in the fact that it was almost the only distinctly medical and pharmaceutical, chemical text-book in the English language for several years. It combined the features of a laboratory manual and a general text-book, and treated of a great number of subjects.

It has seemed to the author of this notice that it is rather complicated for the average medical student, and that the arrangement of subjects is confusing. The author begins the subject of chemistry by a brief account of some of the common elements, and then gives a few pages to some general principles. He then takes up the metals and their salts, and scatters the other general laws of matter throughout the book whenever they are suggested. This method of treating the principles of the science seems rather to complicate than to simplify the subject.

This, however, is largely atoned for by an elaborate index covering sixty-three pages, a most important feature in a book in which the arrangement is peculiarly complicated. The statements of fact are generally reliable, but in some chapters the attempt to treat of a great many subjects has compelled the author to condense the matter into a mere catalogue of names.

The Periodic Law receives but a brief mention and no attempt is made to employ it. The generally accepted classification of the carbohydrates is omitted, although some of the terms are used without definition. The book in its present form is to be recommended as an excellent reference manual, but is rather too complicated as a text-book for the beginner.

**CLINICAL LECTURES ON MENTAL DISEASES.** By Thomas S. Clouston, M.D., Lecturer on Mental Diseases in the University of Edinburgh. New (5th) edition. Crown 8vo., 750 pages, with 19 full-page colored plates. Cloth, \$4.25 net. Lea Brothers & Co., Publishers, Philadelphia and New York.

This standard work is too large to admit of any suitable review in a few lines. It is clearly printed on toned paper. The illustrations are good and partly in colors. They are mostly devoted to pathology to which he gives considerable attention. There are no pictures of clinical types. The reference at the foot of the frontispiece should be to p. xi, instead of p. ix.



The frequent description of actual cases adds much to make it attractive reading; yet partly for this reason it is only systematic in the brief summary at the head of each chapter. In the general text he wanders so much that it is often difficult to find a point sought. He is not much of an advocate of massage and rest as a cure for melancholia (p. 44).

Amongst the causes of progressive dementia he does not assign to syphilis the prominent place that is done by many authorities. He seems to rank internal hemorrhagic pachymeningitis as simply a manifestation of this trouble. The pupillary and reflex symptoms in paresis are only indirectly referred to as a table sub-form. He separates out a rare ( $\frac{1}{2}$ -per-cent.) though distinct form of syphilitic insanity.

He dwells somewhat (p. 477) upon the frequency and the importance physiologically and pathologically of symmetrical brain lesions. Under "Paralytic Insanity" he describes what we usually term secondary dementia. Amongst the many valuable chapters is one on the legal and social duties of physicians in relation to insanity.

The book will long continue of interest to men in this line of work and is so written as to be instructive to all medical readers.

WILLIAM BROWNING.

**RETINOSCOPY** (or Shadow Test) in the Determination of Refraction at One-Meter Distance, with the Plane Mirror. By James Thorington, M.D., Adjunct Professor of Diseases of the Eye in the Philadelphia Polyclinic and College for Graduates in Medicine, Assistant-Surgeon to Wills' Eye Hospital, Ophthalmologist to the M. E. Orphanage, etc. Third edition, revised and enlarged. Forty-three illustrations, twelve of which are colored. Philadelphia. P. Blakiston's Son & Co., 1012 Walnut street. Price \$1.00. 1899.

The title, retinoscopy, has been wisely chosen, for its synonym, skiascopy, though originally a term used only in ophthalmology, is now somewhat ambiguous, because it has recently been appropriated by another department of medical science. Although this book is not intended to take the place of more elaborate treatises upon the subject, yet the practical details of the art of retinoscopy are more fully explained in this book than in any other with which we are acquainted. The introduction of colored plates has been quite helpful, for they serve to illustrate certain principles much better than many pages of mere verbal description could possibly do.

It may not be entirely out of place, in this brief review, to call attention to the "refracting opticians" and "ophthalmotricians" who frequently advertise that they use the shadow test or retinoscopy and, therefore, *no drops* are needed. This statement is absolutely false and quite misleading. Numerous authorities might be quoted on this point. However, the author of the work under consideration puts the whole thing in a nutshell when he says (p. 29): "The patient must have his accommodation thoroughly relaxed with a reliable cycloplegic."

JAMES W. INGALLS.

**MANUAL OF CHEMISTRY.** By W. Simon, Ph.D., M.D. Sixth edition. Thoroughly revised. With 46 illustrations, and 536 pages. Lea Brothers & Co., Philadelphia and New York. 1898.

This text-book has been before the public since 1884, and has reached

its sixth edition. The author has been for many years a well-known teacher of chemistry in both the medical and pharmaceutical schools of Baltimore. The book is clear, concise, and accurate in most of its statements, and is intended as a guide to the student while following a course of lectures on general chemistry, as well as a laboratory manual or guide to laboratory practice. It is divided into seven parts. Part I. is devoted to the consideration of the general properties of matter.

Part II. treats of the theories or elementary principles of chemistry.

Part III. treats of the natural history of the elements, giving especial attention to the analytical reactions of the elements and their compounds. A special feature of this book is the series of colored plates, giving the colors produced by certain reactions. These plates may be of service to beginners, as it is difficult to express in words all the shades of color produced by chemical reactions, but it is better, in the opinion of the author of this review, to allow the student to learn the appearance of the precipitates by observation. The color is only a part of the appearances to be observed. The consistency, etc., are of equal importance.

Part V. is devoted to qualitative and quantitative analysis, including the volumetric analysis of the U. S. P.

Part VI. treats of organic compounds, in a space of 156 pages. This part of the book is very much condensed, and comparatively few of the newer remedies have found a place.

Part VII. is devoted to physiological chemistry. In a space of 64 pages the author treats of the salient points in the composition of the various tissues and secretions of the body, including the examination of gastric contents and urine. As a whole the book is to be recommended, because of its simplicity. Parts VI. and VII. would be better if they were not condensed to so small a space. Considering the space given to this part of the subject, the selection of topics is good.

**THE MEDICAL COMPLICATIONS, ACCIDENTS, AND SEQUELÆ OF TYPHOID OR ENTERIC FEVER.** By Hobart Amory Hare, M.D., B.Sc., Professor of Therapeutics in the Jefferson Medical College of Philadelphia, Physician to the Jefferson Medical College Hospital, Laureate of the Medical Society of London, of the Academie Royale de Médecine de Belgique, etc. With a special chapter on the Mental Disturbances Following Typhoid Fever. By F. X. Dercum, M.D., Clinical Professor of Diseases of the Nervous System in the Jefferson Medical College. Octavo, 267 pages, 21 engravings, and 2 full-page plates. Cloth, \$2.40 net. Lea Brothers & Co., Publishers, Philadelphia and New York. 1899.

The preface of this book states that the following pages deal with aberrant forms of typhoid fever and the courses which they pursue.

In Chapter I. the author very properly attempts a definition of the disease, for that is the logic premise on which such a work must rest.

Without the statement of the differentia, that which separates it from every other condition, what follows will be of doubtful service. And here is just the weak point in this essay. "A febrile course characterized by

malaise, headache, fever, drowsiness, intestinal disorder, enlargement of the spleen and liver, the eruption of rose spots, and the confirmatory Widal test may be considered to represent true, uncomplicated typhoid fever"—is the definition given. The statement of the specific cause—the *real differentia* underlying the condition is necessary to complete it. Eberth's bacillus has reason to complain of oversight in this instance. The statement of the Widal test will not make amends, for it is uncertain and unreliable according to much testimony. The complaint will continue to be heard until the bacteriologist gives us more certain means of recognizing it.

Volume upon volume has been written upon diseases, in the past, attempting just what this book undertakes; the one entitled "Practical Diagnosis" by this very author is a fair sample of such attempt for all pathological conditions. The discovery of the basis of the condition, as has been well illustrated in diphtheria, clears away the fog.

We will accompany the author through these pages in vain search for means of immediate and positive diagnosis, and although we will be put on our guard more than ever by his kindly teaching, we will part company agreeing to defer to the post-mortem the determination of many a case, but through no fault of his.

The old story of variability in symptoms and course, varieties of onset, complications, and sequelæ is recounted in chapter after chapter. We are finally informed that Chapter V. will treat of conditions which "ape" typhoid fever. We are disposed to remark in the same vein that this is no subject "to monkey" with. The suggestion of absurdity or frivolity is out of place in this scientific field. The chapter is well written and ought not to be handicapped by such caption.

The book closes with a chapter on "The Mental Complication," by F. X. Dercum, M.D., of great value and well written. He comes in and assumes that to be the underlying condition in typhoid fever and so his work is complete.

While thanking the author for his endeavor to aid the practitioner, we are impelled, more than ever, to deplore the lack of a sure diagnostic test for the fever. But let us look at this essay from another standpoint. We are told, in the words of Osler, that "typhoid fever is a multiple infection in which the chief lesion of the disease may be found in other organs than the bowels." That being the case, in the absence of a sure test for the underlying cause, we must employ the process of exclusion to bring us to the diagnosis. The investigations of the bacteriologist have done much to expedite such work. Examinations of *blood* and *secretions*, as the author shows us, will be required in many cases. Laveran's hematozoa, spirilla, increased leucocytosis, the tubercle bacillus, Klebs-Löffler bacillus, bacillus xerosis, bacillus of Pfeiffer, and the micrococcus lanceolatus, etc., will show by their presence the toxic influence at work in doubtful states.

Again the lesson is forced home that there is call for patient search by physician, surgeon, and specialist, that the initial offender may be discovered before he has infected family, regiment, or town even. In this respect the book is an exhibit of what can be done to stamp out the disease and is valuable in insisting on the cause of the continuance, *viz.*, the failure to recognize the sources of infection.

**THE NEWER REMEDIES**, Including Their Synonyms, Sources, Methods of Preparation, Tests, Solubilities, Incompatibles, Medicinal Properties, and Doses as Far as Known, together with Sections on Organo-Therapeutic Agents and Indifferent Compounds of Iron. A reference manual for physicians, pharmacists, and students. By Virgil Coblenz, A.M., Phar.M., Ph.D., F.C.S., etc. Third edition, revised and very much enlarged. Philadelphia: P. Blakiston's Son & Co., 1012 Walnut street, 1899.

If the announcement should be made to any one of us that he would be expected to pass an examination on the newer remedies in medicine we are disposed to think it would cause some uneasiness. The complexity and ever-increasing number, with descriptions scattered through very many periodicals, would on first sight offer an insuperable barrier to the work of preparation for such a task.

After consulting the standard works on therapeutics and the dusty, cumbersome masses of journals, papers, and monographs, and the year-book and those infallible specimens of literature which propose in preface to solve every known medical problem under the sun, the student, with brain befogged, would search the book-stores for some systematically arranged treatise on the subject. Surely he could not otherwise hope to be well-armed for the ordeal. If we should meet such a person we would say, buy Coblenz's book, entitled "Newer Remedies"; it will tell you what no text-book does: in short, it will relate the whole story in brief, comprehensible form. It will cost you but one dollar, and make you a well-posted witness of the advances in this branch of your art.

**NERVOUS AND MENTAL DISEASES.** By Archibald Church, M.D., of Chicago, and Frederick Peterson, M.D., of New York. 305 illustrations. Pp. 843. Philadelphia. W. B. Saunders. 1899. Price, cloth, \$5.00, half morocco, \$6.00.

The portion of this work, the first 600 pages, devoted to nervous diseases, is wholly by Church; while the remaining 216 pages of text, devoted to insanity, is by Peterson. It follows the same lines as the small volume by our townsman, Dr. Shaw, only more amplified. Space is not to any great extent taken up with matter belonging in anatomical and other treatises. Hence in general plan it represents the best type of modern work for teaching purposes.

In a first edition we can excuse many little slips. A few points have been noted as worth special mention.

He very properly says (p. 313) that a small continuance of alcohol will suffice to keep up that form of neuritis when once started, and urges the necessity of preventing contractures. He also recognizes distinctly "Arthritic Muscular Atrophy" (p. 387).

The main criticism to be made is that the work is immature. Under paramyoclonus (etiology) no note is made of a frequent hysterical basis. He does not seem to distinguish between sulphates and iodids in the treatment of lead palsy (p. 313), though he realizes that the metal may be

set free in the system too rapidly. The picture, Fig. 207, showing propulsion is not so typical of Parkinson's disease as though it showed festination. On p. 219, the cut from Leube preserves the old error of a communication, *via* the foramen cœcum, between the longitudinal sinus and the nasal veins, and it is reiterated in the text; in fact this generally disappears by adult life. Though the subject of brain-tumor is discussed intelligently, no mention is made of slow pulse and frequent sighing—except that “alterations in respiration and pulse rhythm” occur. Specially reprehensible is one statement under “Cerebral Softening”—“When called at the onset of the softening in the early hours of the attack, if hemorrhage can be excluded, the treatment consists in maintaining a masterly inactivity;” in reality it is just the time to proceed energetically and with a good prospect of saving part of the threatened area. When in epilepsy the fits occur on rising, it is entirely inadequate to advise that the largest dose of bromides be given at bedtime (p. 576). Huntington, of special chorea fame, is everywhere carefully spelled Huntingdon; as he is still living and at the time this book was written was a resident of this State it shows how soon error creeps in.

The part of the book on “Insanity,” by Peterson will be highly appreciated. Degeneracy marks are of course carefully rehearsed by this author. Admirable is his freedom from speculation and his emphasizing of established basal facts. His approval of the recommended substitution of *adonis vernalis* (epileptic insanity) for *digitalis* when the latter is indicated, is not warranted by the reviewer's experience.

If this work is duly revised in later editions, it can safely be prophesied that it will long stay in the front rank of favorite treatises.

WILLIAM BROWNING.

**THE MINERAL WATERS OF THE UNITED STATES, AND THEIR THERAPEUTIC USES.** With an account of the various Mineral-Spring localities, Means of Access, etc. By James K. Crook, A.M., M.D., Adjunct Professor of Clinical Medicine and Physical Diagnosis at the New York Post-Graduate Medical School, etc. In one octavo volume of 580 pages. Cloth, \$3.50, net. Lea Brothers & Co., Philadelphia and New York. 1899.

Mineral waters, like some other valuable articles used in the treatment of disease, have suffered from the misrepresentations of unscrupulous business firms and quacks. The various imitations of natural waters are familiar to the eye of all who enter the drug-store. Enormous jugs and long- and short-necked bottles, with gaudy labels announcing wonderful and impossible virtues of contents, stand on floor and shelves. Chlorid of sodium and magnesium sulphate perfumed with sulphuretted hydrogen are qualities common to many and they in most cases, we are suspicious, have been combined by human hand. Dr. James K. Crook, in the present volume, gives an authoritative and practical knowledge of the natural mineral waters of the United States and shows that they contain just the same curative agents as foreign springs and compare favorably with them in every way. Every variety of mineral water is represented and the therapeutic uses are clearly given. A valuable and interesting book is the result. It deserves to be read and carefully studied.

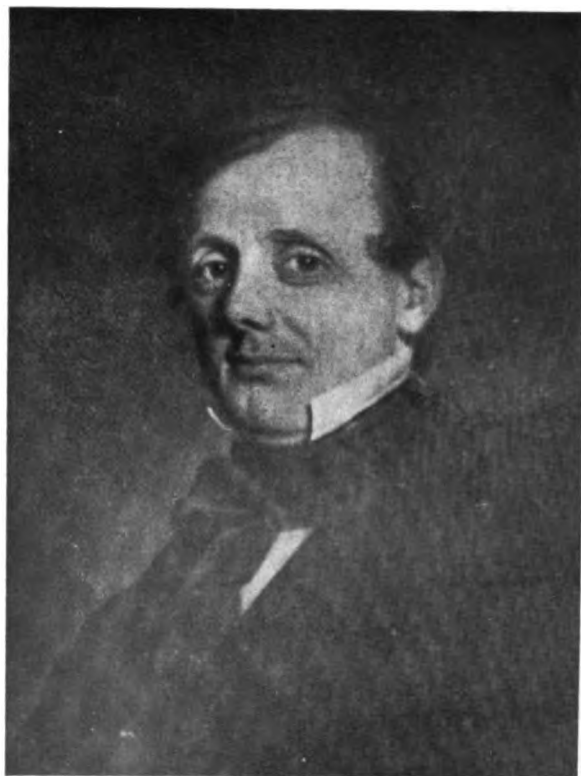




DE WITT CLINTON ENOS, M.D.







**SAMUEL BOYD, M.D.**

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## ORIGINAL ARTICLES.

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### OBSERVATIONS UPON THE ORGANIZATION AND WORK OF THE MEDICAL DEPARTMENT OF THE SEVENTH ARMY CORPS IN THE SPANISH- AMERICAN WAR.

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BY GEORGE RYERSON FOWLER, M.D.,

Late Major and Chief Surgeon U. S. V.; Consulting Surgeon and Chief of the Operating Staff  
in the Field, and Medical Inspector, 7th Army Corps.

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This paper is not put forth as a complete record of the work of the Medical Department of the Corps to which the writer was attached during the late war, but is simply made up of notes kept while serving at different times as Chief Surgeon of the Third Division, Chief Surgeon of the Second Division, and, finally, as Consulting Surgeon and Chief of the Operating Staff in the Field, and Medical Inspector of the Corps.

The general staff officers of the Medical Department of the Seventh Army Corps, at Jacksonville, Florida, where the corps was first assembled, consisted of a corps surgeon, whose duties were purely administrative; three division surgeons, with duties largely of the same character, and a brigade surgeon to each

brigade, whose official duties were mostly those of a sanitary officer. In addition to these, each separate regimental organization, when complete, consisted of a surgeon in the grade of major, and two assistant surgeons, in the grade of a first lieutenant. In the case of several of the States the first assistant surgeons were commissioned in the State in the rank of captain. These, while permitted to retain their State rank, were only allowed the pay of a first lieutenant, by a decision of the Treasury Department, that, in case of officers commissioned by the State in a higher grade than those holding a corresponding office in the United States Army, the office, not the grade, should determine the pay. A number of brigade surgeons were attached to the corps for such special duties as commanding officers of hospitals, and a medical supply officer. The last-named proved of most inestimable value, the duties of which were ably administered by Major Jas. E. Pilcher, the well-known author of "First Aid in Illness and Injury." As time went on it was found that a still larger number of medical officers were necessary, in order to meet the demands of the service. To fill this need acting assistant-surgeons, or so-called "contract doctors" were appointed.

The division hospitals were at first established in the suburbs of Jacksonville, namely, one at Springfield and one at Panama Park. Upon the arrival of the First Division from Miami, where it was first stationed, the hospital of this division was located at Fairfield.

The personnel of each division hospital consisted of a major and brigade surgeon as commanding officer, an executive officer or adjutant in one of the grades below that of major, an acting assistant quartermaster and commissary, usually a first lieutenant of the line, detailed from one of the organizations in the division; a medical officer in charge of each ward, hospital stewards in charge of the pharmacy and the different branches of the executive service, and hospital corps privates. The duties of the latter consisted in caring for the sick, maintaining cleanliness in the wards, policing the camp, and manning the ambulance service. The men of the hospital corps were about evenly divided between those enlisted in the corps as a part of the regular organization, and those transferred to it from the volunteer organizations. A strong effort was made to secure trained male nurses. A recruiting officer was sent North for that purpose, but, because of the small pay offered, comparatively few, and, as a rule these

not of the best, were secured. There were some exceptions to the latter, however.

The medical officers in charge of the wards of these field hospitals were at first assigned from the medical staffs of the regimental organizations in the division, the first assistant surgeon being usually selected for this duty. With the prevalence of diarrhea and such other ailments among the troops as did not require hospital treatment, but which, at the same time made up a large sick-call, it became necessary to return the regimental surgeons to their commands, and to supply their places with acting assistant surgeons or contract doctors. These latter were at first appointed without special examination, in order to fill an emergency caused by a rapidly developed epidemic of typhoid fever, which visited the camps of the Seventh Corps, as similar outbreaks taxed the resources of the medical departments of other camps in the long-to-be-remembered summer of 1898. After the corps was moved to Savannah an examining board was appointed for the examination of acting assistant surgeons.

The epidemic of typhoid fever referred to roused everybody to the necessity for a trained nursing force, and, as it seemed to be impossible to obtain male nurses, and, furthermore, the signing of the protocol having made it more than probable that the Seventh Corps, which had been organized especially for the campaign against Havana, would now go to Cuba as an army of occupation, rather than as an army of invasion, it became still more evident that the services of women nurses would be desirable, and even absolutely essential, in order to avoid a large death-rate from the prevailing typhoid infection. Under these circumstances the Surgeon-General promptly responded to a request to send a force of women trained nurses. These were forwarded as fast as they could be secured. No one, realizing the conditions as they existed before the arrival of these women nurses, and witnessing their work, could fail to admit that the low death-rate among our typhoid cases at Jacksonville, was largely due to care bestowed upon them in the unfaltering devotion to duty shown by these loyal women. Occasionally an incompetent or otherwise undesirable person was discovered, and here and there an adventuress, with no well-founded claim as a member of the trained nursing fraternity, would succeed in eluding the vigilance of Dr. Annita Newcomb McGee, the efficient acting assistant surgeon in the Surgeon-General's office, who had charge of this branch of the work at Washington. These, however, were quickly

weeded out. Sometimes a drone would appear. It was almost invariably shown that, when a nurse was given greatly to fault-finding at some temporary and unavoidable discomfort in camp life (for these lived in tents, like the rest of us) it was in evidence, one needed not scratch very deep to find a half-trained graduate of some obscure training-school, if, indeed, she did not turn out to be an out-and-out pretender. But these only served to bring out in bold relief the noble characters who stood up to their work in the face of the greatest difficulties that it had ever been their lot to meet with in the care of the sick; women whose devotion was animated by as high a degree of patriotism as ever fired the enthusiasm of volunteer soldier, and who faced disease and death as unflinchingly as trained veterans. Some of these fell victims to the epidemic, while others who fell ill only recovered after long and dangerous illnesses.

A group of twenty Sisters was sent to us. These suffered by comparison with our regularly trained nurses, as members of an exclusive religious organization almost invariably do, when the question of the care of the sick comes up. The Sisters were unfortunate, also, in that their instincts and training both were permitted to stand in the way of the full care of male patients, which, in the absence of properly trained male nurses, frequently devolved upon the women nurses. Again, the rules of their order, forbidding their messing at the same table and otherwise mingling with others engaged in the same serious work, prevented that comity of feeling so desirable under the trying conditions to be faced in a hospital camp.

The arrangement of the wards of the division hospitals was that of radiating lines from a circular space in the center, like the spokes of a wheel. A figure representing a half wheel, the central space being the hub, resulted. This was placed in a square area, the sides of which latter were occupied by the officers' quarters, the hospital corps men, the quarters of the female nurses, and the kitchens and the mess-tents, each having a side of the square. The sinks were remotely placed.

This plan of arranging the wards was given a fair trial. As a result, it was found that, while it gave increasingly larger air space as the wards were extended by the addition of tent-sections composed of two tents, each with an intervening fly, it possessed but very little advantage, and was open to several objections. The ground occupied by the hospital, as a whole, was greatly and unnecessarily increased, and the time lost in making rounds of the

wards, and by surgeons and nurses in passing from one portion of the hospital to another was not inconsiderable. Great difficulty in properly policing and guarding the grounds was experienced, and, at one time, during the height of the epidemic, it became necessary to detail whole companies, and in one instance an entire battalion, from the troops of the division to perform necessary work in connection with the care of the sick in these hospitals. It must appear at a glance that such a procedure would be manifestly impracticable as applied to a field hospital located in a hostile country. The plan is wasteful both of energy and ground space, two very important considerations from the military standpoint, and only applicable, if at all, to a hospital located under the most favorable conditions in a friendly country. Even here it presents the very decided disadvantage, when applied to a camp of formation and instruction, of creating conditions impossible of application, in the vast majority of instances, in an enemy's country. The necessity for the prompt care of the sick and injured, together with the demand, in an active campaign, for the services of every available man in the ranks combine to emphasize the importance of adopting the simplest possible construction of a field hospital, and the exercise of the greatest economy both of energy and space in connection therewith.

The causes of the rise and spread of typhoid-fever epidemics in connection with military camps during the recent war with Spain is a subject of great interest to the profession in general, and particularly to the military surgeon. When one takes into account the fact that this disease is endemic during the whole year on the American continent; that epidemics are of frequent occurrence; that the infectious agent, so far as at present known, has its habitat in the body, and that a certain proportion of cases are of the so-called "walking" or ambulatory type, from which ample opportunity is afforded for the spread of the infection of the disease through failure to disinfect the excreta, a common-sense and practical explanation is at hand. If, in addition to this, it be remembered that the age of enlistment in the volunteer army corresponds very closely to the age of susceptibility to the infection, and that the conditions of military life are such as to favor the propagation of an infectious disease, the infecting agent of which passes from the body with the stools—this occurring in many instances, before the true nature of the disease is recognized and continuing during the early stages of the convalescence, at least, and possibly still later with the urine—it would

be strange, indeed, if epidemics of this disease did not occur, as a rule, in connection with the massing together of large bodies of troops. Further, the congregating of troops in a tropical climate, with its inherent tendency to favor the propagation of infection, on the one hand, and to produce intestinal disturbances on the other, thus multiplying the direct cause and at the same time establishing, in connection with other debilitating influences, both a general and a local lessening of the vital resistance, should not be overlooked in this connection. Finally, the opportunities offered for spread of infection through the medium of swarms of flies passing from the common sinks to the more or less adjacent company mess-tents or pavilions, as well as the fecal-soiled fingers of careless individuals in the ambulatory stage of the disease, conveying the infection to comrades through articles of food handled, must be considered as important factors in connection with this branch of the subject.

It would be superfluous to enter into details covering the measures sought to be instituted to meet the indications suggested by a review of the causes of the spread of the infection. The immediate covering of the fecal deposits in the company sinks would seem to be an easy method of solving the problem, so far as flies were concerned. Only those engaged in the work of instituting and enforcing sanitary regulations for the protection of troops can realize the difficulties in the way, even in the case of the simplest orders designed for this purpose. Absolutely immediate covering of the fecal deposit is next to impossible, if it is to be done by the soldier himself. Only prisoners could be detailed to the sink to carry out this procedure. A sentry posted at the sink to see that the soldier carried out this order, and, in addition, disinfected his hands in a carbolic solution before leaving the sink, was found to be as near to the ideal as it was practical to come. Lime was freely used, and the pails of carbolic solution used to disinfect the hands were emptied into the sink twice a day. The measures employed in the division hospitals differed in no way from those in use in civil life, save that, in the absence of a sewerage system it was necessary to transport the stools some distance in vessels and in the open air, this constituting in itself a menace to the health of those in the neighborhood.

Of the three divisions at Jacksonville, the First used the latrine and water-flush system, the Second, the method of carrying away the fecal matter in covered half-barrels, while the Third used common sinks. In a general way it may be stated that the first-named

proved the best from every standpoint, while, as might have been expected, the second proved the least satisfactory, and the most dangerous to the health of the troops.

Upon the transfer of the corps to Savannah, the medical department was supplemented by the appointment of a consulting surgeon and chief of the operating staff. This was done for the reason that there had developed a large number of cases of hernia and other surgical conditions requiring operative interference. The writer, then serving as one of the chief surgeons of the corps, was selected for this duty. A house was procured in the city and used, at first, as an emergency hospital. Later on, an operating-room was fitted up with all the necessary appliances for general operative work. During the time that it was in existence, before the final move of the corps to Cuba, the need of a separately organized and equipped institution for operative work was fully demonstrated. Laparotomies for intra-abdominal surgical diseases and injuries, operations for the radical cure of hernia, as well as a large number of operations for the radical cure by excision of enormously large axillary and inguinal lymphatic glands were performed. A surprisingly large number of the latter were apparently of non-venereal origin. Both the vertically and obliquely placed glands were usually involved in both the venereal and non-venereal cases. The hernias operated upon were all inguinal, and of recent origin. The majority of the patients had never worn a truss. Opportunity was thus frequently afforded for the study, in the course of the dissection, of the anatomical conditions present in cases of inguinal hernia uninfluenced by frequent manual reduction and truss-pressure. It was found, as a result of these observations, that the form known as infantile hernia, in which the pouch of peritoneum formed by the descent of the testicle, becomes obliterated at the internal ring but remains patent throughout the rest of its extent, the sac being formed by pressure upon the septum and descending behind the tunica vaginalis, and that known as encysted hernia, in which the septum is forced into the cavity of the tunica vaginalis itself, largely predominated.

The Seventh Army Corps commenced its movement to Cuba early in December, the Headquarters' Staff reaching Havana on the 11th of the month, on the transport "Panama," the first prize steamer captured during the war. Notwithstanding the fact that the wharves of Havana are known to be infected the year round with yellow fever, isolated cases occurring constantly in the districts near the water-front even in the dry or winter season,



the transport was compelled to remain at the wharf and within two hundred yards of "Dead Man's Hole" for three days, owing to the fact that, although a detachment of engineers had been sent in advance to establish the headquarters' camp, as well as the other camps, this had not been done. The ships, however, carrying the troops were unloaded and the latter hurried to Marianao and Quemados as fast as transportation for their camp equipment could be obtained, although there were some delays for which the quartermaster's department came in for its usual share of blame.

It is probably true that those who have lived in and about Havana for any length of time grow indifferent to the dangers of yellow fever, and the detachment that preceded us, as well as the department responsible for the delay in disembarking troops, were no exception to this rule. At any rate one would suppose from the tardiness displayed that the harbor of Havana was a health resort instead of a pest-hole.

Our first acquaintance with the town was upon a hot, sultry day, in the afternoon. We found the warm, crooked streets indescribably filthy. If there is needed any argument for the control of this island by the United States, it can easily be supplied by an inspection of the streets of this city and the realization of the enemy that it has been in the past and the menace that it will be in the future, to the health of our country, particularly to the residents of our Southern States, unless its sanitary affairs, at least, are under the control of the United States. No systematic effort has ever been made in the past to lessen, much less abolish, yellow fever here, and this effort never will be made until the ports of the island, at least, are in absolute control of our government.

Spaniards and Cubans seem to be equally indifferent concerning sanitary matters. The most educated and refined of these, from whom better things are to be expected, are seemingly as careless as the coarse and ignorant, in most matters pertaining to the maintenance of health. In the best hotel in Havana, one largely patronized by the foreign element, the sanitary conditions are such as would disgrace the meanest tenement-house in New York City. The plumbing is of the most indifferent grade, and the closets "a mockery, a delusion, and a snare." Most of the private houses have privy-vaults of enormous capacity dug beneath the kitchen-floors. These are lined with stone, in order, as expressed to me by a prominent citizen, that "the liquid material might find its way out in the surrounding earth, thus doing away with the necessity of frequently emptying the vault." The same gentleman, an educated and re-

fined Cuban, also told me that the vault in his own house only required to be emptied once in about fifteen years! As a result of the soil saturation from the excrementitious matter in these enormous vaults, the odors are beyond description.

Equally careless are these people in matters of hospital hygiene. Here there is a broad field for American enterprise. While a pretense of isolation of yellow-fever patients may be made by the erection of separate pavilions for the same, nevertheless, at one of the most recently built, and hence, presumably, the best of the Havana hospitals, the Alfonso XIII, a case of smallpox was found in a ward with a large number of patients suffering from malarial and other diseases, as well as surgical cases, with no attempt or intention to either isolate it or vaccinate the other occupants of the ward. In answer to a question upon this point, the Spanish medical officer in charge simply shrugged his shoulders in reply. And yet attempts at aseptic and antiseptic technic in surgical work are obvious, and the methods of keeping records, particularly in the military hospitals, are models of their kind.

The camp-sites selected for the troops of this corps were admirably located in the Marianao district, about seven miles from the city of Havana, with headquarters at Buena Vista. There is a range of hills, with beautiful, fertile valleys between, running along the coast at this point, and it is here that the tents were pitched. The drainage is perfect, the camps overlook the ocean, and the breeze from the latter are soft and balmy. There is an abundance of good water, the pipe-line supplying Havana from the Vento Springs having been tapped for the purpose. This water is remarkable for its purity. In fact, this abundant supply of pure water is the only redeeming feature, from the point of view of health, of the city of Havana.

The soil in this vicinity is but a thin layer upon a limestone foundation, and it is necessary to blast out the latter in order to obtain pits deep enough for common latrines. It is the intention to add a water-flush system to the latter. No effort will be spared, according to the present intention, to protect the health of the troops, and when the arrangements in contemplation have been carried into effect, a complete innovation, it is believed, will have been made in the quartering of troops in camps. This, with wholesale vaccination and restricting the visits of soldiers to the city until the latter has been placed in a sanitary condition and sources of infection removed, its occupancy by immunes being effected in the interval, it is expected will solve the question of maintaining a force of

United States troops on the island during the rainy season. The plan of the division hospital was changed as a result of experience at Jacksonville and Savannah with that of placing the wards in lines radiating from a common center. This was replaced by that of placing the ward sections upon one or more sides of the square set apart for hospital use, the other sides of the square being occupied by the hospital corps men, the officers' quarters and executive offices, and the women nurses. A space in the center is kept open and enables the commanding officer or his adjutant to cover the whole camp at a glance.

The plan of the organization of the hospital corps was likewise changed. Formerly the ambulance company and the hospital corps were under separate commanding officers, the former having control of the transportation of the sick and injured to the hospital, while the latter took charge of them upon their arrival. Formerly ambulances visited the camps of the regimental organizations at a fixed hour each morning and removed those requiring hospital treatment to the division hospital. This made it necessary to keep a much larger force of men at the division hospital than was desirable, and, worse still, compelled the presence of a large number of animals upon or near the hospital grounds. An improvement was effected when the ambulance companies were disbanded and the ambulances and animals distributed to the regiments, two being retained at each hospital for emergency use.

There has always been great difficulty in maintaining discipline among hospital corps men, particularly among those detailed from the regimental organizations to the hospital corps. Company commanders, as a rule, make a special study of the subject of getting rid of men not easily amenable to discipline. When these could not be discharged the service on surgeon's certificate of disability on the ground of their being mentally incapable, or foisted upon the detail of the provost marshal, the hospital corps, when it became necessary to strengthen this by regimental details became a convenient dumping-ground for their worthless material. Even when this material was good much valuable time was lost, if not lives sacrificed, before the advent of women nurses in the army, in breaking these men in to the duties of the hospital corps. It is to be hoped that this experience will not be lost upon the military authorities of this country in wars of the future, and prevent the repetition of the error which threw aside the trained hospital corps of the State organizations at the commencement of the Spanish war. Again, the commanding officer of a field hos-

pital, if he is at all interested in the professional work of the latter, can pay comparatively little attention to the disciplining of refractory enlisted men. Here and there one meets with a medical officer who has a positive talent for this sort of thing, but it is the exception rather than the rule. At the present time the plan of dividing the hospital corps into three companies and placing each of these under a medical officer who is responsible for their discipline, is on trial.

In the organization of the operative work of the department it was deemed best to organize an operating outfit for each division hospital, instead of a general operating-hospital, this plan being considered as being more in line with the requirements of the service. A separate corps of assistants was selected from each division hospital staff to assist the chief operator of the corps, as well as a separate operating-room force of nurses.

The question of the care and disposition of yellow-fever cases in camp life is a very serious one, and occupied the attention of the medical department ever since it reached the island. To place these in the yellow-fever hospitals occupied by the Spanish troops was out of the question. The dangers to our own attendants in these places is too great. The greatest danger to attendants and others in the care of yellow-fever cases is not from attendance upon the patient, but in coming in contact with surroundings in which want of care has permitted infectious material to find a favorable resting-place sufficiently long to establish a nucleus for its propagation. In other words, this is preëminently a "place disease," and if the patient can be treated in a spot not previously infected, those in attendance, within certain limits, run much less risk if every precaution be taken to prevent infection of the surroundings. It would, therefore, seem best not to attempt to utilize hospital buildings already in use, but rather to erect new ones, and that in localities not heretofore infected. With this in view the construction of plain and inexpensive wooden pavilions, in remote localities and where they could be regularly and safely destroyed by fire, has been recommended to the authorities in Washington. It is believed that in this way only could hospital attendants be protected and the spread of the disease be prevented.

While the Spanish army seems to have had medical supplies in abundance, the reverse obtained in the Cuban army, as is well known. The first effort to establish a hospital for soldiers of the latter, aside from the exceedingly crude and inadequately equipped

field hospitals, scarcely worthy the name, was made by "The Patriotic Junta" under permission obtained from Captain-General Blanco, after the signing of the protocol. The Villa La Ofelia, at Marianao, was placed at the disposal of the Junta, and Dr. Ponce de Leon made medical director. The sick and wounded of the Insurgent Army were collected from the camps in this and the neighboring provinces, to the extent that it was possible to accommodate them with its limited capacity.

The hospital proper contains 140 beds, but there is a convalescent house, the 60 inmates of which either sleep upon the ground or in hammocks swung from the walls and a line of posts, this manner of sleeping accommodations being the same as that employed for the Spanish garrisons of the many isolated fortifications, block-houses, and entrenchments throughout the island. In my official capacity it became necessary for me to visit this hospital frequently, and for this reason opportunity was afforded me of studying the effects of both Remington and Mauser gunshot wounds. As a rule, those inflicted by the last-named had been attended by a minimum amount of injury to the neighboring parts, while those resulting from the passage of the missile from the Remington arm were characterized by extensive laceration of both bone and soft parts. As might have been expected, the latter were attended by marked local septic complications, and many were yet unhealed after the lapse of months. In one case a Cuban officer had been injured almost simultaneously by a Mauser rifle-ball in the left tibial region and a bullet from the Remington arm in the same locality upon the opposite side. The one showed a small cicatrix respectively at the points of entrance and exit, and had evidently been the site of a rapidly progressive and hence aseptic healing process, while the other exhibited the evidences of a compound and extensively comminuted fracture, with the history of a large number of necrosed sequestræ thrown off, and the presence of dense cicatricial tissue binding together the anterior tibial muscles, this extending to the tendons upon the dorsum of the foot, with contracture of the gastrocnemius and the characteristically pointed foot of a practically untreated injury of this kind. For these wounded men had been transported from place to place by the members of one or another of the roving bands of insurgents, whose small numbers made it necessary to execute rapid movements in the guerrilla warfare which they carried on, with no medical attendance.

One exceedingly interesting case is worthy of mention. In a

night skirmish with a large body of Spanish troops, an officer had been shot from his horse and left for dead upon the field. The members of his command had returned after some hours and, by the light of the moon, proceeded to dig a grave in which to place his body, near where he lay upon his face on the ground. While conveying the supposed dead man to the place of burial, weak though he was from loss of blood, he managed to make himself heard in a whisper, conveying the information that he was still alive, although completely paralyzed. He had received a Mauser bullet upon the right side of the neck at the posterior border of the sternomastoid muscle, the missile emerging upon the left side just in front of the corresponding muscle of that side. The track of the bullet corresponded to the level of the upper border of the thyroid cartilage. He was taken to the camp, in the chaparral, and eighteen months afterward was removed to La Ofelia Hospital. Here it was found that sensation was perfect and motion nearly so. From him I learned that sensation had commenced to return in the parts below the seat of injury in twenty-four hours, and motion in twenty-eight days. The wound had healed without suppuration, although no dressings had been applied. When seen by me, the only evidences present of the previously existing spinal injury were the exaggerated reflexes, and the inability to walk other than short distances without muscular weakness coming on. It would seem as if the missile had carried away a portion of the body of one of the cervical vertebræ with concussion to the cord, resulting in temporary pressure from hemorrhage and final slight functional interference from callus pressure.

Two intensely interesting cases of gangrene of the extremities in soldiers with slight injuries were shown me. Both were young men. A septic thrombophlebitis in individuals broken down by the privations and hardships incident to the kind of warfare the Cuban insurgents were compelled to carry on, accounted for the occurrence of the gangrene. The equipment of the hospital was meagre in the extreme, owing to the poverty of the people. The cots were made of coarse canvas stretched over rudely constructed frames of the old "sun-brick" shape. Mattresses there were none.

The commissary department consisted of a few strings of onions, a bushel or two of potatoes, a dozen cans of condensed milk, a small keg of dried peas, and perhaps fifty pounds of salted and dried slabs of South American beef, which, piled up in a corner, suggested a heap of untanned hides. From this scanty

store 184 persons must be fed, about one-half of whom were acutely ill, one-sixth convalescents from typhoid and malarial fevers, and as many more recovering from long-existing suppurative processes and exposure and neglect of wounds in the field before being brought into the hospital.

An examination of the pharmacy showed analogous conditions. Of the drugs most needed there were the least, and the medical officers of the hospital were sorely perplexed in endeavoring to adapt the scanty medical stores to the needs of the sick and wounded.

The operating-room was a painful travesty upon the name. A rudely constructed table, two small, common tin irrigators, and an old dining-room buffet, the latter evidently in too dilapidated a condition to be carried off by the former occupant of the villa, constituted the entire outfit. Instruments there were none, save such as were provided by the pocket-cases of the resident staff. A few packages of iodoform gauze and bandages made from torn strips of colored calico summed up all that there was in stock in the hospital in this line.

A visit to the reconcentrados at Guines was made. We were the first United States Army officers to visit this place, and the excitement caused by our presence among the 3000 still left of the 14,000 men, women, and children who had been driven into the city from the surrounding country, can better be imagined than described. Those remaining were in a most pitiable condition; the others had been wiped out by starvation, malaria, and typhoid fevers, dysentery, and diarrhea, and brutal murders committed by the Spanish garrison. The municipal hospital had been used by the latter as a military hospital. Nothing remained but the bare walls, and the filth and infection left by its late occupants. Even the bottles in the pharmacy of the public dispensary in the city hall had been emptied of their contents before evacuation. The reconcentrados were emaciated to a degree, their bloated faces and swollen lower limbs standing out in strange contrast with their skeleton-like trunks and arms. Enteric diseases, profound malarial infection, and extreme anemia and hydremia were the predominating features to be seen in this group of the wretched victims of the wickedest military order in history.

Another investigation, made by order of our humane commanding general, with the view of extending relief, was that of the condition of the Insane Asylum at Mazzora. This institution was established in 1854 by Captain-General Concha, with money

raised among the residents of the island. With an annual fixed income of nearly \$25,000, including \$22,000 from the revenues of the island, and \$10 per month per patient for each inmate, payable by the municipalities against which the patient was chargeable, in addition, as a result of the dishonesty and mismanagement of the officials appointed under the Spanish régime, who were in charge prior to December of last year, the institution was found to be \$100,000 in debt. The inmates included the violently insane, those suffering from dementia, alcoholism, and drug habitism were kept here. Males and females, white and black natives, Chinamen and Spanish soldiers, were found within its walls. These half-naked, starving and chattering wretches formed a striking picture. The sanitary conditions were unspeakably horrible, and the needs of the occupants from every standpoint urgent.

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## REMARKS ON THE PATHOLOGY OF THE NASAL SEPTUM.

BY JONATHAN WRIGHT, M.D.

Read before the Brooklyn Pathological Society, May 11, 1899.

The organ of Jacobson is a longitudinal recess in the cartilage of the nasal septum on each side near the floor of the nostril, which is tolerably constant in animals and in the human embryo, but which only persists as a rudimentary organ occasionally in the adult human being. In man it is often almost microscopic in size and the opening, when one exists, is usually about one-eighth of an inch back of the columna near the floor of the nose. Sometimes it is large enough to afford entrance to a slender probe. It is lined by cylindrical epithelium. It is a rudimentary, functionless organ in man and though olfactory filaments are found among its epithelial cells in some of the lower animals, its function in them may be something of which we have no more conception than can the blind man have of light which he has never seen. It is constant and well-developed in animals nearly related to us, as well as in the reptiles and fishes, but suddenly ceases to be noted, except as an organ becoming rudimentary, as we pass in our study of comparative anatomy from the lower animals through the apes to man.



Kisselbach has drawn attention to the fact that the region where this organ is found in man is especially apt to be the seat of vascular swellings of the mucosa and of the little varicosities which are the origin of most of the nasal hemorrhages. It is also the locality where perforation of the nasal septum is apt to occur, but it is doubtful in my mind whether there is any causal relation between the rudimentary organ and these pathological conditions. The latter are more probably due to the exposure of the thin membrane, covering the firm tissue behind it, to external injury from air, dust, and the finger-nail. I am not convinced, however, that some of the cartilaginous ridges seen frequently at this point may not be due to active metabolism at the seat of what at an earlier stage in evolution was evidently an important organ.

There not being time to enter into a fuller discussion of this interesting structure, of which so little has been said in this country, I would refer you for full information as to its comparative anatomy to the recent exhaustive monograph of Von Mihalcovics ("*Nasenhöhle und Jacobsonsches Organ. Eine morphologische Studie.*" Wiesbaden, 1898).

I have brought with me, however, thick sections from the septal cartilage of a sheep, which shows the large development which the organ of Jacobson reaches in some animals.

There is another structure to be observed in the septum of animals which we are able to associate more definitely with certain pathological changes and clinical phenomena observed in man. In certain patients suffering from hypertrophic rhinitis, two masses, varying in size, are frequently seen in the post-nasal mirror, one on each side of the septum near the posterior border, where it articulates with the body of the sphenoid bone. These swellings are frequently mistaken for bone. They are not bone; they are made up almost exclusively of erectile tissue, which collapses quickly on the application of cocain. In certain subjects this tissue apparently occurs normally in that situation, as there is no other evidence of hypertrophic tissue, for it must be remembered that erectile tissue may either exist normally or be developed as the result of pathological processes. When this erectile tissue does not exist or when it is in a condition of collapse it will be observed in the post-nasal mirror that the spot in question is apparently the roomiest portion of the nasal chambers not only in its transverse but in its vertical diameter. It is possible that to this anatomical condition may possibly be due the tendency of the erectile tissue, when it does occur here, to hypertrophy, for the

nasal mucous membrane abhors a vacant space, as Nature does a vacuum. However that may be, we find in certain animals and especially in the bovine race, that nearly all the erectile tissue in the nose is upon the posterior half of the septum and most abundantly developed at the posterior margin near the roof of the nasal chambers. Elsewhere I have briefly drawn attention to certain observations which are illustrated in the sections I show here from the thickest portion of a bull's nasal erectile tissue and that of a bullock. It will immediately be seen how much more developed is the nasal erectile tissue of the bull than that of the castrated animal. When we remember that the close analogy in the anatomical structure of the erectile tissue of the nose and that of the genitalia, this appearance is too striking as to its physiological significance. We know that the sexual instinct plays an important rôle in the emotional nature of man, but perhaps we do not always appreciate its various manifestations either physiologically or pathologically. To how large an extent the sense of smell enters into it, is certainly not universally remembered. During the rut in animals the male is attracted to the female by the smell emitted from the glands of the genitalia or in some cases, as in the deer, from certain other special glandular organs. The human female is prone to add to her charms those of pleasing artificial perfumes. Sexual excitement in man is often ushered in by sneezing. The sensuality of the Oriental is evidenced not only in his tendency to the display of gorgeous colors to catch the eye, but in his love for the spicy odors of Arabia and his attar of roses to intoxicate the sense of smell. In the higher sphere of intellectuality the voluptuousness of perfume floats through the Persian poems of Hafiz and of Omar Khayvan.

Various pathological phenomena are to be noted in the clinical histories of nasal affections, which may be traced back in their origin to sexual life. Vicarious menstruation, when it occurs, is usually from the nose. Masturbation in either sex is in adolescence a fertile cause of nosebleed. It may be surmised that the paleness of the nasal mucous membrane and the roominess of the nasal fossæ observable in old persons has direct connection with the decline of the sexual instinct. The beginning of intranasal hypertrophy and especially of vasomotor rhinitis is frequently coincident with the advent of puberty. Atrophic rhinitis with ozena, as a rule, begins at puberty in women and ends at the menopause. Bony cysts of the middle turbinated are seen almost exclusively in women during their sexual life. The growth

of nasopharyngeal fibromata is confined almost exclusively to the decade of life following the establishment of puberty in males. All these phenomena, and many others, are noted in the daily practice of rhinologists, and extensively related in the works of John MacKenzie and of Fliess. Some of them may have rather an apparent than an actual connection with sexual activity, but there is still an abundance of clinical evidence to corroborate the relation which these slides suggest between the erectile tissue of the nose and the organs of generation.

You may think in a pathological society meeting I have already wandered sufficiently afield, but at the risk of being called to order I wish to impress upon the general practitioner, as well as upon the specialist, that a trifling spur or deviation of the septum, or a small amount of post-nasal adenoids very frequently, at the time of the advent of puberty in young girls and during the establishment of the menses will produce a reflex train of symptoms or even evidences of nasal or post-nasal obstruction which has not existed before, and which may not persist after puberty is fairly established. While it is not always advisable to await Nature's cure in these cases, it is especially necessary to be very conservative in one's advice as to surgical interference.

I will pass over simply with a mention the following brief observations in regard to the pathology of the nasal septum.

True papilloma, when it occurs within the nose, is nearly always found on the anterior part of the cartilaginous septum.

Angiomatous growths are the most common of all the benign growths of the nasal septum, and sarcomata in this situation are frequently angiomatous. I show you a slide from an angiomatous fibroma and one from an angiomatous sarcoma of the nasal septum.

Sarcoma of the nasal septum frequently does not recur after superficial removal; still less frequently does it recur after radical extirpation. These observations might be more extensively considered, but I must hasten to the statement of my belief in regard to the etiology of the more common pathological conditions of the nasal septum—spurs and deviations.

While deflections and spurs of the nasal septum are found more or less marked in more than one-half of the Caucasian race, and while in the very large majority of these individuals such conditions give rise to no appreciable symptoms, they are, nevertheless, however small, to be regarded as pathological states, but this is very far from saying that they therefore present in them-

selves necessarily any indication for operative interference. Aside from questions of operative technic, the principal interest in connection with them lies in their pathogenesis and etiology. I believe that both septal spurs and septal deviations are always the result of hypernutrition and that the latter results from an inflammatory process. This inflammatory process usually has its origin in the mucosa covering the septum, and is frequently the result of blows and falls, causing sharp bends of the cartilage, which rupture the cartilaginous cells along the line of the convexity of the bend. Nature, in her profusion, throws out material along this line and produces the spur. The cartilage grows at its periphery and being held in a firm framework of bone, a bend must occur somewhere to accommodate for the redundancy in the vertical plane, and when there has been an injury the bend in the cartilage takes place along that line, where, as we have seen, a spur has also formed from the same cause. I have seen a spur slowly form as the result of inflammation of the mucosa on the septum of a case that has been under my care for many years for atrophic rhinitis. Spurs which are not the result of forcible bending of the cartilage and accompanying deviations are almost invariably found to be located on the cartilaginous septum at a point where the mucous membrane is thinnest, lies closest to the bone from the absence of submucous tissue, and that spot is the so-called Kisselbach spot near the floor of the nose back of the columna and that is the site of the organ of Jacobson when it exists. I do not believe, therefore, that the lack of development or the over-development of the skull in any of its parts; I do not believe that the high arched palate has anything to do with the production of nasal spurs and deviations except in so far as they may be the predisposing cause of nasal inflammation.

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## GLYCERINATED VACCINE VIRUS AND ITS PREPARATION.

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BY HENRY WALLACE, M.D.,

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During the summer of 1898, while acting Major and Surgeon of the Forty-seventh Regiment, New York Infantry, United States Volunteers, application was made to the Surgeon-General of the United States Army for vaccine virus for the protection of

the regiment. Within forty-eight hours a supply sufficient to vaccinate the entire command was received from Pocono Biological Laboratory. The virus (glycerinated) was put up in Sternberg bulbs, ten in a package, with an equal number of needles for scarifying, and heavy orange-wood toothpicks for rubbing the vaccine in.

As a result of such an enormous number of vaccinations a rather large number of sore arms, constitutional disturbances, and a great many men relieved from duty as a consequence were expected.

To our great surprise and relief we had less than half a dozen really sore arms and but very few men laid off from full duty.

The pocks resulting were typical, and the almost complete absence of inflammatory reaction remarkable. To be sure, every man's arm was thoroughly cleansed, the needle flamed, and the scarification protected with a small sterile gauze pad held in place by a couple of strips of adhesive plaster, after the vaccination. Men who said that they had been repeatedly vaccinated without success responded to the glycerinated virus.

As a result of this experience I have used it since in private practice with equal success.

It gave me great pleasure to accept an invitation to visit the laboratories whence the vaccine came.

Dr. Slee's laboratory is located in the Pocono Mountains of Pennsylvania, a beautiful, rough country, reminding one of the southeastern part of Arizona.

A site selected is near a picturesque trout stream, which not only supplies water to the plant but also drink for the cattle.

The building is of substantial masonry, the barn close by, with corrals for isolating the waiting animals before and after the process. The main building consists of a stable, operating-room, packing-room, office, bacteriological and photographic laboratories. The building is finished in hard-wood and cement floors throughout, being kept at an even temperature by furnace-heat. The stables are always kept in the pink of perfection, ventilation throughout being excellent. The operating-room is large and airy, has a cement floor with central drain, and is kept in condition for the cleanest possible work.

To one side is the table, arranged so that the calf is strapped firmly to it while in the standing position, and then tilted so that the animal lies comfortably on its right side, exposing well the abdominal wall and inner thigh regions. The packing-room ad-

joins, as also the refrigerating-room where the virus is stored. Up stairs we find the photographic and bacteriological laboratories.

For the purpose of making vaccine, heifers three to six months of age are selected and are isolated for observation for at least a week. Young animals are chosen, for the reason that their skin is finer and more delicate, and also because they are much easier to handle.

When an inoculation is to be performed the calf is led to the operating-room, strapped to the tilting-table, and in a few moments is ready for the operation. The hair is cut very close over the abdomen and upper femoral regions and is then very carefully shaven and scrubbed with soap and water, leaving the skin looking beautifully pink and soft.

The operator and his assistants don their white duck suits and scrub up. All but the prepared portion of the animal is covered with a clean sheet and towels, and then, with a sterile scarifier, a large number of abrasions are made over the bared area. These scarifications are probably an inch to an inch and a half long by an inch wide, and reaching down to the rete Malpighi, just so as not to draw blood. At least one hundred to one hundred and twenty of these are made, the calf apparently not much discommoded.

The inoculation of a sterile glycerine virus is made, avoiding the reproduction of extraneous organisms as always occurs where the virus is carried from animal to animal by large points or spades, as they are called. Shortly after the spots are thoroughly impregnated the calf is returned to the stable.

For the next four or five days, or until the vesicles are well formed, the calf is apparently well and, apart from an occasional elevation of temperature (rarely exceeding 1 degree), has a good appetite and acts perfectly well.

By the fourth or fifth day, as stated before, this virus is collected. The calf is brought again to the operating-room and placed upon the table.

The points that surprised me were the appearance of the vesicles; they were formed along the course of all the lines and cross lines of the scarifications, and the total absence of any inflammatory areola. Here and there, between the scarifications, could be seen isolated and typical umbilicated vesicles. Sometimes the inguinal glands are found enlarged, but there was no pus visible to the naked eye. With a sterile "Volkmann" sharp spoon the vesicular growth is removed from all the scarifications

and placed in a sterile jar. This pulp is found to contain streptococci and staphylococci.

The removal of the pulp allows to exude in greater or less quantity, according to the size of the vesicles, serum; "ivory points" are covered with this, allowed to dry and are ready for use.

After all available serum is collected the calf is released from the table and returned to the stable, where she remains for several days; later, the calf is allowed its freedom in a corral and by the end of two weeks is sent home to its owner in prime condition, having spent about four weeks on the vaccine farm.

The further history of the pulp is this: It is weighed, thoroughly triturated with a certain quantity of glycerin, placed in a sterile culture-tube, sealed and stored in a refrigerator. A culture of this glycerinated virus on agar in a Petri dish shows numerous colonies, as said before, of pus-organisms. At the end of the week the number of these colonies is found to be less, so that by the end of a month the material is found to be sterile, showing the germicidal and preservative action of glycerin.

Here, then, let me call attention to the comparison of virus collected on points and the glycerinated virus, and show why the former should not be used when the latter can be obtained.

In the first place, the quantity of virus obtained on a point is uncertain, and in the second place, it is unavoidably infected with extraneous organisms; further, where point virus is obtained, makers are said to wait until the seventh or eighth day of the vesicular development in order to collect enough serum to make the process pay, when by this time it is well infected by pus-organisms.

At the end of the month the glycerinated virus is sealed in tubes or Sternberg bulbs for the market.

Although the Health Board of New York City antedates Dr. Slee by several months in the production of glycerinated pulp virus, still it is to him that the credit belongs of preparing it in quantities large enough for commercial uses.

The United States Army, which has been using the preparation during the present war, is supplied now only with virus in tubes or bulbs, the medical authorities realizing the superior value of a glycerinated virus.

This paper is presented to the profession, feeling that it might interest such as were not acquainted with the modern production of vaccine virus.

## INCOMPLETENESS OF THE VAGINAL SPECULUM.

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BY J. E. LANGSTAFF, M.D.

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Read before the Brooklyn Gynecological Society, May 5, 1899.

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The great importance of the vaginal speculum as a means of diagnosis and of treatment of the many diseases of the uterus and its appendages demands that every effort should be made to perfect it.

Of the specula that belong to other parts of the body none have had one-tenth the amount of thought and ingenuity spent upon them as the vaginal speculum. The fact that fifty or more varieties have been devised by prominent specialists and afterwards discarded proves that we are not as yet entirely satisfied with that of Sims, which is still employed by all operators.

Every general practitioner possesses from two to four varieties, only two of which he uses; the Sims, which is absolutely necessary for all operations, and a bivalve, generally the Graves, which for convenience in making applications to the uterine cavity is preferable to the Sims. A great many attempts have been made to combine these two instruments into one, but the blade of the Sims, which is perfect in shape, cannot be conveniently used in the bivalve.

A consideration of the anatomy of the pelvic outlet will enable us to understand why so many instruments have failed.

If we can imagine the bony outlet of the pelvis as diamond-shaped with the acute angles at the pubes and coccyx, it will be seen that the rami of the pubes and ischia which form two sides of this quadrangular space limit expansion in this direction, while posterior to the ischia a great amount of latitude is allowed. The fleshy outlet of the pelvis is practically triangular in shape, the sides being formed by the soft parts covering the rami of the pubes and ischia and the base by the transversus perinei muscles.

To draw back the center of the perineum would be to convert the triangle into the above-mentioned diamond-shape, and to press apart the two sides just made is the only means of enlarging the vaginal outlet. Dawson split the Sims' blade, and by means of a screw-post separated the two portions so as to accom-



plish this object, but the soft parts bulged up into the space so made, and in this way rendered his improvement of little value.

The first speculum made was a pair of wire loop-blades that simply separated the labia; others were made in which the wire blades were held together at the points until after introduction into the vaginal cavity, but they are impracticable on account of the infolding of the mucous membrane about the wire.

The tubular form of speculum on account of the difficulty of introduction is limited in size to one inch.

The bivalve, of which Cusco's is the simplest kind, is cylindrical at the outlet and not larger than the tubular, the blades are long, and being of equal length the anterior blade frequently lifts the cervix out of view.

To enlarge the outlet of the bivalve a great many inventions have been made. Hale slides the blades apart at the hinges in a slot. Wackerhagen uses two rods, and Leonard a square post at one side. The blade in these instruments is held in place by set screws after introduction. Graves separates the blades by means of a central post or handle, which makes it very convenient to adjust, and the anterior blade being very short renders it more suitable for all cases.

The advantages of the bivalve are that it is self-retaining, and can be used with the patient in the dorsal position. The disadvantages are that the anterior blade and its attachments to the posterior one contract the vaginal outlet.

The trivalves of Nott, Nun, and Bozeman have objections similar to the wire blades.

As the single blade of Sims enlarges the vaginal outlet in the only way possible by retraction of the perineum, and having neither hinges nor screws, it becomes necessarily the best instrument, but the requirement of a trained assistant limits its general use to about five per cent. of the profession, at the same time it seems impossible to do an operation with any other speculum. The effort to hold the Sims blade in position by some mechanical contrivance has brought out a complication of levers and straps which have all been abandoned.

The bivalve gets a counter-pressure against the arch of the pubes, which makes its retention very simple. Darrow and Emmet attempt to get counter-pressure from the posterior surface of the sacrum, which is about three inches above the line of traction required, so that when moderate pressure is applied the blade swings out of position.

Dawson, Hunter, and Hanks overcome this difficulty by using the sacrum as a fulcrum, and bringing a lever out at right angles to the body, the end of this lever being attached by a strap to the upper part of the body of the patient. A slight movement of the patient disturbs the position of the blade.

Cleveland brought the blades of the Sims near together, and made the speculum act as a clamp on the perineum, it being held close up to the perineum by means of a short strap. This device is probably the best, but not entirely satisfactory. I have used with success a thin steel circular plate about five inches in diameter, which I slide beneath the patient, until the outer edge comes on a plane with the perineum; then by means of an extension post attach the Sims blade to it. The mechanism is exceedingly simple, the movement of a thumb lever acting on an excentric pinion, clamps, blade and post firmly into any desired position. The patient can change into any position while the speculum is in place without displacing it in the slightest degree.

By means of an upright post on each side of the vaginal outlet I attach retractors, which draw the perineum to each side if necessary, or they may be pointed upward and lift, or put on the stretch, the anterior wall of the vagina. Also by means of a curved wire a disc is carried beneath the arch of the pubes and the anterior wall lifted up to any required height. This wire is attached to one of the side posts, and supports the disc at its center by means of a swivel attachment, which allows it to adapt itself to any position within the vagina.

#### DISCUSSION.

Dr. Chase: The author's statement that the vaginal speculum is incomplete is a fact that corresponds with the experience of every one; personally, I have seen none which is perfect. Nor is any one speculum suited to all cases. In regard to a self-retaining speculum, I have never seen anything used which is better than the Ehrlic speculum, which has an adjustable blade and a disc fitting over the sacrum. The Sims speculum in the hand of the trained nurse is the best. If in this new device the author has given us something which is really practical he is to be congratulated. I think I see in it evidences of value—especially the upright pieces which hold the lateral retractors. I do not, however, agree with the author that all operations about the uterus are done with the Sims speculum, for there are many

which can be done with the patient in the dorsal position, and with a small perineal retractor.

Dr. Baldwin: I want to congratulate Dr. Langstaff on the development of this speculum. He has evidently devoted much study to it, and it no doubt works admirably as a substitute for the Sims speculum which, by the way, is the best we have.

In regard to a speculum for operative purposes I prefer the Cleveland to the Sims in the hands of an untrained nurse or assistant. The great trouble with the Cleveland instrument is that it is often improperly made, the blades made parallel instead of slanting, as they should be. With the Cleveland speculum and the five sizes of the Sims, which comprise what is known as the Woman's-Hospital set, one has really all that is necessary for all cases. It is the distention of the vagina by the entrance of air which gives us a view of the cervix, and very often the introduction of the finger alone will do this.

Dr. Polak: The author should certainly be congratulated upon the mechanism of this instrument. As a vaginal retractor I think it should act well. My objection to it would be on account of its cumbersomeness, and because of the time necessary to adjust it properly. So far as retention specula are concerned, we can get along without a trained nurse by using Garrigues' modification of the Jacobs speculum or the perineal retractor of Edebohls with a pail on the hook. The only objection to the Sims speculum for operative work is that it is difficult to get it properly held. As a matter of necessity rather than choice I have discarded that instrument in operating, except in cases of vesico-vaginal fistula, and now use the Garrigues speculum or that of Edebohls.

In regard to the bivalve, I have never seen a speculum of this kind which was of value except, perhaps, that of Talley of Philadelphia. His instrument dilates the vagina laterally, and thus admits the air freely. The objection to all bivalves is that it is not easy to dilate the vagina with air when the patient is lying upon her back.

The speculum presented to-night has many virtues as a self-retaining speculum, but I do not think it possesses any advantages for operative work over the Garrigues or the Edebohls.

Dr. W. J. Corcoran: I would like to call attention to a speculum which is a very simple one, and which accomplishes all that the author says his does, the speculum of Dr. Byrne. It has a blade similar to that of the instrument shown to-night, and it acts

as does the Sims speculum in the hands of a nurse—draws back the perineum. It has also a short movable anterior blade which holds up the anterior wall. It is very simple, and accommodates itself to almost any vagina, and is self-retaining with the patient upon the back or side. It can be taken apart and sterilized. I use it when curetting and in operations upon the cervix.

Dr. McNaughton: The preceding speaker has taken the words out of my mouth, for I was just about to mention Dr. Byrne's speculum. I have seen it used, and it is really marvelous how much can be accomplished with it.

In regard to this new speculum, the author is to be congratulated upon the mechanism of the device. It is a most ingenious arrangement, and I would like to see it used. We should not forget that all forms of this style of specula are evolved from the original Sims speculum, which was a spoon-handle.

Dr. J. H. Hunt: The speculum has had several epochs. It has been invented, reinvented, and reinvented over and over again. I can show you that the vaginal speculum was used by Paul of Aegina in 625 A. D., who it appears, had an excellent knowledge of atresia of the os uteri, fissures, excrescences, prolapse, etc. Two, three-, and four-bladed specula were used at that time, and also tubes with holes in the end and sides for giving vaginal injections. Vaginal specula have been found in the ruins of Pompeii—bivalve, trivalve, and tubular. They were forgotten, and were reinvented in 1505 by a Frenchman named Picart, and were used by numerous others, only to become lost again until the time of Récamier, the successor of Couvisart, who employed them first in the Hotel Dieu in Paris in 1805. In 1818 the vaginal speculum was universally used. Ricord used a bivalve; Segales a trivalve; another Frenchman, Mayer, invented what we call the Ferguson, but made it of opaque glass in various sizes, and furnished with an obturator. Sims spoon-handle speculum was invented in 1852. How it came about is told in a most interesting way in his autobiography.

In regard to modern specula, I am surprised that no one has mentioned the self-retaining speculum of Dr. Thomas.

Dr. Dickinson: I would like to ask the members of this Society whether they use the Sims position in operating upon the cervix, in curetting, and in doing colporrhaphy; or whether they employ the dorsal posture with the weighted or held perineal retractor. I am inclined to think that the German influence in favor of the latter is rather overcoming the Sims-American method.

Dr. McNaughton: That depends upon the conditions present. With the patient in the Sims position the air enters the vagina and causes the uterus to take a high position; this gives more room in which to work, and is a great advantage in some cases. When there are no inflammatory adhesions in the pelvis, I employ the dorsal position, not, however, because of the German influence, but because cervical lacerations can be as well and more rapidly repaired. Twenty years ago Goodell recommended this position, and advised the use of silk ligatures as tractors, one in the anterior and one in the posterior lip of the cervix, thus enabling a performance of the operation without speculum or retractor.

Dr. Frederic J. Shoop: For curetting and in operating upon lacerations of the cervix I prefer to have the patient in the dorsal or exaggerated dorsal position, with the perineum drawn back by a retractor or weighted speculum. In the last case I operated on I was able to work without any speculum on account of the relaxation of the uterine ligaments, and an excessive laceration of the perineum. The ease with which the sutures are placed when the patient is in the dorsal position makes that the most desirable one whenever it can be used.

Dr. Baldwin: If any one at the Woman's Hospital should attempt to do a cervix operation with the patient upon the back, I am sure that Dr. Emmet would want to disown him. Occasionally a curettage is done with the patient in this position, but never anything else, the Sims position being used exclusively. Personally, I prefer the side position for cervix operations, curetting, and dilatation. In post-partum cases when one expects to use a large quantity of irrigating fluid, and especially if the operation be in bed, I use the dorsal position and retract the perineum with one or two fingers. The only other operation I do with the patient on the back is the perineal operation.

Dr. Chase: The time was years ago when I did all operations upon the cervix with the patient in the Sims position and with the Sims speculum. There is the advantage that they give more room in which to work, but at times I have experienced great difficulty in getting in the under stitches, and have even been obliged to turn the patient over upon her right side in order to accomplish this. I now use the dorsal position in nearly all operations about the vagina. The Sims speculum, however, is very useful in cases in which there is a narrow vagina in a narrow pelvis, and also in cases in which there are so many adhesions that the uterus cannot be brought down easily. Often much damage is done by dragging down an adherent uterus.

Dr. Dickinson: Personally, I like to work with a weighted perineal retractor with the patient in a dorsal position. I find it more convenient, for the patient is placed in that position for the examination which precedes operation, confirming under narcosis the diagnosis previously made. I use the Cleveland self-retaining speculum, and find it especially serviceable in tenement-house work and in post-partum cases. It was Jacobs, I think, who devised the first weighted speculum. This is simply a Simon spoon with a ball of metal attached to it. The metal ball contains a groove. By this lock additional tips may be placed. I have used this Fralich speculum exclusively during the past two years in vaginal work. Hunter's modification of Ehrlic's speculum which has been referred to, was much used before gynecologists had office-nurses. I do most of my work with a very small speculum. The largest-sized virgin Sims speculum is sufficiently large for most cases. In examining virgins Kelly's No. 12 and No. 14 cystoscope may be used. Many of the bivalve specula cause pain because of the faulty action of the opening of the blades. The pivot is not placed at the right point, and the result is that the vulvar outlet is distended unnecessarily. The Taylor-Cusco and my long-bladed model in virgin cases are the only bivalve specula which have not this defect.

Dr. Langstaff: In order to find out what specula are the most used, one only has to ask the instrument-makers which are most sold. Tiemann and Reynders both tell me that the Graves and the Sims are the most commonly asked for, and that Cleveland's comes next. The more intricate ones do not sell, and are thrown away each year as scrap-iron.

I think I said in the paper that simple operations are sometimes done without any speculum. I did, however, make the statement that the Sims speculum is the most generally used, for the majority of operators use it. My speculum, of course, is intended to take the place of an assistant or nurse, and is so constructed that it is held in place as a nurse holds the Sims. The lateral retractors are not intended to be used at the same time as the perineal blade. It would be almost impossible to introduce the three blades at once. The elevator is intended for use only when the patient is in the dorsal position, for the speculum can be used with the patient on the back as well as on the side. I do not see how it is possible for the vagina to become distended with air when the patient is on the back.

## PERFORATING GUNSHOT WOUND OF THE RIGHT THIGH WITH INJURY TO THE FEMORAL ARTERY.

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BY F. W. WUNDERLICH, M.D.

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Read before the Brooklyn Surgical Society.

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John J. Walsh, private, Company M, 2d Massachusetts Volunteer Infantry.—Perforating gunshot wound of the right thigh. Mauser bullet. The bullet entered in Scarpa's triangle, about three inches below Poupart's ligament, directly over the femoral artery, and escaped on the outer side of the thigh, at about the same level, at a point corresponding to the fold of the buttock. When he was wounded the hemorrhage was very profuse, but it was checked by the application of an antiseptic dressing and compression with a bandage applied by a corporal of his company. He came North on the hospital ship "Relief," and was case 24, reported by Dr. Senn, in the *Medical Record*, July 30, 1898, as follows: "A well-marked aneurism developed, presenting all of the physical signs of such pathological condition. The swelling is somewhat elongated, a little larger than a hen's egg, and has not increased in size since the patient came on board of the hospital ship. The leg is somewhat edematous and painful."

The patient informed me that a splint had been applied by the first surgeon who attended him, Monday, July 2d, for supposed fracture of the femur; but it had been removed on the hospital ship July 13th, probably as a result of an examination with the X-rays. Since Dr. Senn states in another portion of his paper: "In fractures in close proximity to large joints the X-ray has been of the greatest value in ascertaining whether or not the fracture extended into the joint. In one case of gunshot wound at the base of the thigh, in which the bullet passed in the direction of the trochanteric portion of the femur, opinions were at variance concerning the extent of the injury to the bone. Some of the surgeons made a diagnosis of fracture; while others contended that there was no fracture, but believed that the bullet had made a deep groove in the anterior portion of the bone, had possibly opened the capsule of the joint at the same time. The X-ray picture

clearly demonstrated the absence of fracture, and the existence of a deep furrow with numerous fragments on each side."

When he was admitted to St. Peter's Hospital, July 17th, the tumor was smaller, but more elongated, pulsation and thrill could be felt up to Poupart's ligament, and fully two inches below the wound.

The surgeons who examined him at that time were unanimous in the opinion that he had sustained a fracture of the femur. An X-ray apparatus was not at our disposal.

*Treatment.*—Rest in bed, and intermittent compression by means of cotton pads, and an elastic bandage passed around the pelvis and the right thigh. The bandage was applied during the morning visit, and the patient instructed to remove it at night when he wanted to sleep. He gradually improved, and was permitted to go about with a crutch. September 10th, while he was walking, the crutch slipped, and he fell on the injured limb. He complained of pain above the knee, but there was no evidence of any serious injury. On the following day he also complained of pain in the region of the heart, of oppression, and palpitation. Temperature, 102° F.; pulse, 118. The heart's impulse was strong, the action somewhat irregular, and a murmur was audible over the left ventricle. Apparently endocarditis had developed in consequence of the fall. An ice-bag was applied to the region of the heart, infusion of digitalis with bromide of sodium given internally, and in a few days the pain and palpitation subsided; but he continued to have more or less fever until the latter part of September. Sodium salicylate, potassium iodide, quinia sulphate, and other remedies were given at different times, but all proved to be inadequate to check the fever.

The aneurism gradually diminished in size, and only a trace of the tumor and thrill was apparent when he went home on furlough October 6, 1898. However, a systolic murmur was audible over the apex and left ventricle of the heart at the time of his discharge.

In a letter under date October 19, 1898, he informed me that he felt well every way, that his leg was getting strong, and that he could walk pretty well upon it. The pulsation he could feel only where the bullet went in.

In a letter under date May 31, 1898, he states: "I can walk pretty good on the leg. My heart is a little improved; it does not beat so fast as it did, only when I exercise. I still feel the tremor over the artery; it is not much improved. The leg is one and one-half inch shorter than the other, and one inch larger in cir-



cumference where the bullet entered. It is pretty strong, but nothing like it was before I was hurt. I still keep the bandage on. My pulse was 80 the last time a doctor examined me."

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## NOTES ON UTERINE HEMORRHAGE.

BY L. G. LANGSTAFF, M.D.

Read before the Brooklyn Gynecological Society, June 2, 1899.

The subject of uterine hemorrhage is a very broad one, hence, as the title of this paper implies, it is only intended by the writer to touch in a more or less random way on a few phases of the subject.

Uterine hemorrhage, connected with operative procedures or with accidents in the puerperal state, or due to conditions connected immediately therewith, the cause of which is obvious, and the treatment equally so, will receive no consideration.

I wish simply to place before you the histories of several cases of the more common forms of hemorrhage, hoping to draw from you individual experiences and opinions which collectively will be of greater value than can those of a single member of this Society.

I will first refer briefly to a case, the history of which I reported to this Society some time ago, one of the prominent conditions of this patient being uterine hemorrhage, profuse menorrhagia and metrorrhagia. This patient had recurring attacks of salpingitis and ovaritis, excited on one occasion by a digital examination, at another time by the operation of trachelorrhaphy, the latter having been undertaken to relieve, among other symptoms, her hemorrhages. About the third day after this operation, after a number of expulsive pains, there was a discharge of a thin, very offensive fluid from the vagina, estimated by the nurse as at least a pint. This, I inferred, came from a temporarily occluded hydrosalpinx. On treatment of these inflammations she recovered so completely that a digital examination no longer revealed any disease of ovaries or tubes, though her hemorrhages were not in the least improved. On giving a detailed history of this case here it was suggested by some of the members that it would have been wise to have used the curette. Some time after this she went to St. John's Hospital, where she was exam-

ined by the attending surgeon and curetted with the sharp curette, her hemorrhages having required frequent tamponing. This treatment was likewise followed by no relief, but as she left the city to reside elsewhere I have been unable to follow her history since. I think I may say in this connection that the source of her trouble was not discovered by the operator, and necessarily the treatment failed. I think you will also agree with me when I state that the hemorrhages in this case were almost without a doubt due to disease of the uterine appendages, probably chronic inflammation with occasional involvement of the adjacent peritoneum.

During the last month I was called to see a woman who told me that she had had an abortion at a period of two months or more of pregnancy, and that since that time, about three weeks, she had continued to flow. Having satisfied myself that her statement was correct, I curetted her thoroughly with a sharp curette, removing about half an ounce of placental débris. She was put to bed, and the hemorrhage ceased during the following day, and then reappeared. Concluding, reluctantly (as I felt very sure that I had removed the entire contents of the uterus), that there must still be placental tissue remaining, I prepared to curette again. During the preparation the patient informed me that she had had for the last two days a constant pain in the lumbar region, besides some pain in the hypogastrium. This I may say was some two weeks or more after the first curetting. On making a digital examination I found a prolapsed and very sensitive ovary in the posterior cul-de-sac. The curetting was deferred, the patient was placed in the knee-chest position, a boroglyceride tampon placed against the ovary, and a couple of dry pads raised the uterus to a fixed position. On removing this the next day no hemorrhage was noticed. The treatment was repeated, and the following day the patient removed the dressing, and declared herself so much relieved that she thought no further treatment was required. The hemorrhage, which had been quite free, quite as free as before the curetting, had ceased at the first treatment and had not recurred. Two weeks afterward no trace of the ovary could be found on ordinary palpation. My conclusions in this case were that the retention of placental tissue had caused the bleeding in the first instance, and that in the second it was caused by the stimulus given by an acutely congested ovary. The arrest of what may be regarded as an in-

ipient stage of ovaritis, I think it is reasonable to infer, checked the hemorrhage.

Not long since, at the request of another physician, and on his own diagnosis, I curetted another case for what was believed to be fungous or hemorrhagic endometritis. She was, if anything, somewhat worse after the operation than before. I had an opportunity afterwards of making a more thorough examination of this patient, and found the Fallopian tubes, one or both, prolapsed and distinctly enlarged. I should have stated that this patient had had five or six abortions previous to this condition.

I must say that these cases impressed me very strongly, and caused me to recall a number of other cases of the kind in which curetting in hemorrhagic or fungous endometritis, as it is called, or plastic operations in conditions of subinvolution for the relief of this symptom among others, has been done, and frequently unsuccessfully. Details of these cases would prolong this paper unnecessarily. The experience of general practitioners, and perhaps of some members of this Society has probably been similar to mine.

When we are told that both menorrhagia and metrorrhagia may be caused by almost all diseased or abnormal conditions of the uterus or its adnexa, besides a number of general diseases, acute or chronic, and by diathetic conditions, it must be admitted that the chief influence in producing uterine hemorrhage may be difficult to determine, and the difficulty is much increased when several of these conditions are found coexisting. Without attempting to differentiate the particular conditions giving rise to uterine hemorrhage, I would state broadly that it is my belief that the prime factor in the etiology of cases of the kind to which I have referred may be found in abnormal or diseased conditions of the uterine adnexa, especially, or only in that of the ovary. If I am not mistaken it is the site of the bleeding, the uterine cavity, on which suspicion usually first falls, as a result of this, curetting is almost invariably resorted to with the frequent result that I have indicated.

Diseases, of course, that abolish the function of the ovaries cannot be regarded as having any influence to this end, and so are excepted in this opinion.

Briefly, I think that stimulation by disease or otherwise of the ovaries, short of actual alteration of structure, may, and frequently does, produce uterine hemorrhage either menorrhagic or metrorrhagic in character. I think it is not fanciful to suppose

that could we produce a mechanical disturbance in the ovaries similar to that caused by the development and final rupture of a Graffian follicle we might produce the phenomena of menstruation and similarly uterine hemorrhage.

The difficulty in palpating the ovaries and tubes except when they are much enlarged or displaced renders the diagnosis of their condition uncertain, and the treatment of uterine hemorrhage unsatisfactory. A more frequent resort to examination under anesthesia would no doubt lead to more happy results, though the patient is apt to regard this measure as rather too severe for the mere purposes of an examination.

#### DISCUSSION.

Dr. L. G. Baldwin: The subject of the paper is a fruitful one for discussion. In the cases related by the author he has solved the problem in regard to the cause of these hemorrhages. I would, however, take exception to one point, and that is in regard to the amount of fluid discharged from a hydrosalpinx through the uterus. I do not believe that there ever was a hydrosalpinx which held a pint of fluid, or that a hydrosalpinx ever discharged through the uterus. We all know that a nurse is very apt to exaggerate the amount of discharge, therefore I can easily understand how the author was led to make this statement. In my judgment the trouble was due to tubo-ovarian disease, and I have no doubt that, if the subsequent history of the patient could be followed, the patient would be found still an invalid, and this she will remain until the tubes and ovaries are removed.

Dr. Day: I have found that after curettage and trachelorrhaphy a large proportion of the patients menstruate very profusely at the first, and sometimes at the second period following the operation. Later menstruation becomes normal.

Dr. Polak: It is interesting to note that in two or three of the cases reported by the author the hemorrhage was due to disease of the adnexa. There are other causes of uterine hemorrhage, for we see cases in which there is menorrhagia and metrorrhagia, and in which we cannot find anything inside or outside the uterus to account for the bleeding. These are the cases which yield very nicely to the treatment advocated by Dr. Boldt, *viz.*, the use of stypticin after the endometrium has been curetted. In these cases, so far as can be detected, the tubes and ovaries are in a satisfactory condition; the uterus is a little larger than normal, and

does not come down after a curetting or trachelorrhaphy. I have found that by using ascending doses good results are obtained. I have employed it in perhaps sixty cases in dispensary and private work, beginning with half-grain doses, and gradually increasing them to three grains. Stypticin is a derivative of opium.

There is another class of cases, like the one referred to in the paper as having been curetted at St. John's Hospital, in which there are adenomatous growths in the uterus. I have seen many of these cases, and they are very annoying. The bleeding may stop for a few months after curettage, but the uterus remains large, and the bleeding will begin again, and the uterus is again curetted. This will go on until the uterus is removed.

I want to go on record as agreeing with Dr. Baldwin in regard to the case of hydrosalpinx in which it is claimed that the contents of the tube were discharged into the uterus. The uterine end of these tubes is always occluded. Since I have been employing Dr. Palmer-Dudley's method of passing a fine silver probe through the tube into the uterus I have been surprised to find that in nearly every instance it is impossible to do this because of occlusion of the tube at the uterine end.

Dr. W. J. Corcoran: While I agree with those who have stated that the Fallopian tubes in cases of salpingitis are usually impervious, I would like to call your attention to a case seen by me recently in which the contents of a tumor in the pelvis were apparently discharged through the uterus. There was a distinct swelling in the pelvis, and the patient was prepared for operation. Upon making a vaginal examination, and making some pressure from above with the other hand, the vagina became filled with blood-stained serum, and the tumor in the pelvis suddenly disappeared.

Dr. Polak: I recall a case seen three weeks after a miscarriage. There was a fluctuating tumor on the left side, and some rise of temperature. The patient complained of sudden pain, and passed *per vaginam* a quantity of pus. On the following day the tumor could not be felt. I subsequently opened the abdomen and removed the appendix. The tube was apparently normal at the time of operation.

Dr. Shoop: I recall two interesting cases in which bleeding occurred during pregnancy for no apparent reason. In the first case the woman began to flow quite freely when she was three-months pregnant. This was repeated at the fourth month, at

which time there was sufficient dilatation of the cervix to permit the introduction of the finger. The blood seemed to be oozing from the lower segment of the uterus, so I took a dull curette and scraped out some shreds of tissue. The cervix promptly contracted, and the patient went on to the seventh month, when she miscarried, the child living only an hour. In the second case the bleeding recurred at intervals. The patient was kept quiet, and went on to full term.

There are other causes of uterine hemorrhage besides local conditions, although the latter act as factors in the majority of cases. It may be due to constitutional causes, such as purpura, malarial infection, lead-poisoning, etc. Very obese women will sometimes have hemorrhage without apparent cause. In these cases a microscopical examination of the blood will reveal the condition which is responsible for the bleeding. Plethora is also a cause of uterine hemorrhage. Reflex disturbances, such as fright, a first coition, or any sudden emotion, the approach of puberty, or of the menopause, will produce bleeding from uteri which are not diseased.

With reference to the local causes, perhaps, pathological condition of the uterine tissues is the most frequent and important one to engage the attention of the gynecologist, including as it does every variety, from subacute endometritis to carcinoma uteri. Prognosis and treatment obviously depend upon the lesion existing.

Dr. Frank Baldwin: I have seen good results follow the administration of gallic acid in five-grain doses in cases in which no local cause of hemorrhage could be discovered.

Dr. Day: Reference has been made to the approaching menopause as a cause of uterine hemorrhage, and this brings before us a question of vital importance. We all see menorrhagia and metrorrhagia at the time of the menopause, and the question is, Are these conditions essentially due to the menopause, as is generally believed by the laity, and, perhaps, too, generally by the profession? In my experience I have found that menorrhagia and metrorrhagia at the time of the menopause yield as promptly to the treatment usually employed to relieve these conditions as they do when they occur at any other time of life, and it is my opinion that they are commonly due to local abnormalities primarily rather than to the "change of life" as is commonly supposed.

Dr. Shoop: I did not mean to give the impression that hemor-

rhage at the time of the menopause is always due to the menopause *per se*. There is apt occasionally to be a more profuse flow at that time of life on account of the disturbance of the nervous system incident upon the menopause; but if hemorrhage recurs and especially at short intervals, we should look for some local lesion.

Dr. Frank Baldwin: Is not hemorrhage at the time of the menopause a very suspicious symptom?

Dr. Shoop: Certainly, and we should combat the opinion that hemorrhage is to be expected during the menopause and means nothing, for much mischief is done by waiting too long before the patient seeks advice.

Dr. Corcoran: I think there is often an increase in the amount of the menstrual flow at the time of the menopause in cases in which there is no disease. I presume that a curetting would check it, but there seems to me to be no necessity for checking it. Still, I do not consider it a symptom to be passed over.

Dr. L. G. Baldwin: This is certainly a very important subject. In looking up the cases of malignant disease which I have seen I found sixty cases of cancer of the uterus out of a total of 4000 cases, and in every one it was stated in the history that the patient had hemorrhage which was attributed to change of life. Hemorrhage is the first symptom of malignant disease of the uterus, as a rule, yet these patients thought, or were told by their physician, that the hemorrhage was due to the menopause, in spite of the fact that several had passed the menopause some years previously. This one idea is rampant, and is responsible in the main for these cases of cancer of the uterus being allowed to go on until it is too late to save them.

It is true, as Dr. Corcoran says, that there are cases in which there is profuse and repeated bleeding at this period of life when when no disease exists, and where it means nothing; but there are others in which it means a good deal. At no time of life, least of all at the time of the menopause, should uterine hemorrhage be allowed to pass without investigation. When malignant disease is suspected a microscopical examination should be made.

Dr. Corcoran: For fear my remarks were misunderstood, I wish to add that I think hemorrhage at this time of life should always be investigated—especially so when it comes on a year or more after the menopause. How much reliance should we place in a microscopical examination in those cases in which no disease is apparent? I recall a case in which the woman had been cu-

mitted three times before she came into my hands. The microscope shows no trace of malignant disease, yet I shall curette her again.

Dr. Shoop: Some pathologists say that the microscope does not always reveal in the material removed by the curette evidences of malignant disease when it is in the early stage, but that if hemorrhage recurs after a third thorough curetting the uterus is undergoing malignant degeneration, and should be removed at once.

Dr. Polak: I believe that the microscope cannot always be relied upon in these cases. Unless a large portion of the cervix can be removed for examination one cannot be sure that the specimen subjected to the microscope will contain diseased tissue even though malignant disease is present. Dr. Byrne once sent to the laboratory for examination a specimen taken from the mother of a physician. Four of us worked on it, and some forty or fifty slides were examined. Three out of the four of us found no trace of malignant disease, while the fourth discovered on one of his slides unmistakable evidences of cancer. For my part, I would rather take out the uterus if the symptoms justified it than leave it in because the report of the pathologist was favorable. The microscope is not quite what it is lauded to be in these cases, because not every part of the cervix is involved, and the section examined may be from a healthy part. I know of no less than four cases in which the microscopical examination was absolutely negative, yet when the uterus was removed it was found to be hopelessly diseased.

Dr. Day: I believe that it is absolutely wrong to let a woman bleed unduly during the menopause. These patients should be more thoroughly examined and more carefully treated than at any other time of life. We also know that women at this time of life are as subject to endometritis and other abnormal conditions producing hemorrhage as they are earlier in life, and less liable to sustain the drain successfully.

If curetting once or twice repeated in these cases is not effective in controlling profuse hemorrhage, I hold it to be good practice to remove the uterus.

Dr. Frank Baldwin: Reasoning by analogy from the results obtained by the removal of the testes for enlarged prostate, I should think that removal of the ovaries might stop hemorrhage from the uterus.

Dr. Day: In one case in which I removed the ovaries as thor-



oughly as I could two years ago, the patient now reports she is menstruating regularly. This would seem to show that ovariectomy does not always prevent hemorrhage from the uterus.

Dr. L. G. Langstaff: In regard to Dr. L. G. Baldwin's remark about the quantity of fluid discharged from what I believe to be hydrosalpinx, I appreciate the fact that one cannot go entirely by the statement of the nurse, but in this I learned that the fluid was very thin in character, and that there was so much of it that it ran through the bed to the floor, and that the discharge of this fluid was preceded by bearing-down pains, and followed by a slight rise of temperature and some fulness, probably from flatulence, in the abdomen.

There is one point which I would lay stress upon, and that is that we cannot eliminate the ovaries and tubes as a cause of uterine hemorrhage simply because they do not appear upon physical examination to be enlarged or diseased. The physiological function of the ovaries may be deranged, and thus give rise to uterine hemorrhage. If the ovaries could be removed without interfering with the circulation of the uterus, it would be interesting to know how many cases of uterine hemorrhage would be cured. I think that the majority of them would get better, for the ovaries are often the exciting cause by reason of functional disturbance.

Dr. William Maddren: I regret that I did not hear the paper. I really have not thought much about the matter, but my impression is that I would not consider disease of the ovaries as a prominent cause of uterine hemorrhage. There are many other causes which give rise to this symptom. My experience would not warrant me to state that removal of the ovaries would control all cases of uterine hemorrhage.

The Chairman: I do not think we should give too much prominence to irritation of the ovary as a cause of uterine hemorrhage, although, of course, any lesion which causes congestion in the pelvis may produce hemorrhage.

# THE BROOKLYN MEDICAL JOURNAL.

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## EDITORIAL.

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### PREVENTION AND MODERN TREATMENT OF TUBERCULOSIS.

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The paper with the above title which was published in the September issue of the JOURNAL is one of the most valuable contributions to this most important subject which we have ever been privileged to present to our readers. In it Dr. Brush and those who discussed it have given a résumé which will be valuable for all time, and it is to be hoped that much good will be accomplished by carrying out the suggestions contained therein; certainly a disease which causes 8000 deaths annually in the metropolis of the State is one for whose eradication no effort is too great, no expenditure of money too extravagant.

There are some points in this paper which we regard as especially worthy of attention and emphasis. The first of these is that every consumptive patient expectorates between 30,000,000 and 40,000,000 tubercle bacilli daily, and that in the city of New York alone there are not less than 15,000 persons suffering from this disease: *i. e.*, that between 450,000,000,000 and 600,000,000,000 bacilli are disseminated every twenty-four hours.

The word "disseminate" is used advisedly, for recent experi-

ments of Goldie, quoted in the *Canadian Practitioner and Review*, confirm those of Flugge and demonstrate that bacilli are actually disseminated by coughing. Goldie washed his mouth with a culture of bacillus prodigiosus and gave twelve coughs. Prepared plates were exposed in different parts of the room, at the end of five, ten, and fifteen minutes for five minutes each, and all the plates showed varying numbers of colonies, thus demonstrating that a single act of coughing might so infect a room in every part that cultures could be produced from the air. If all patients were as prolific in bacillus expectoration as was one of Dr. Nutall's, quoted by Dr. Brush, whose sputum contained 4,000,000,000, or one hundred times the highest we have supposed, the degree of dissemination would be correspondingly augmented. Minimize the danger of exposure to this source of infection as we may, it is in any event appalling.

The second point brought out in this paper, not of course a discovery by the author, nor does he make any claim thereto, but emphasized by him, is the infection by food, and especially meat and milk. Dr. Brush states that a prominent veterinarian informed him that he had examined a number of the cows that were furnishing the milk-supply of New York City, and that over 75 per cent. showed symptoms of tubercular infection. Dr. Bartley in the discussion states it as his opinion that the origin of tuberculosis is in the cow, and that in many cases from twenty-five to seventy-five per cent. of the cows that furnish milk are tubercular. He thinks that the danger is overdrawn, but he admits, however, that there is a danger. He also regards the use of meat from tubercular cattle as being dangerous, especially when eaten raw, as it sometimes is by the physician's direction.

But, after all, the special point in which the author desires to enlist the cooperation of the readers of his paper is the establishment of sanatoria for the treatment of incipient tuberculosis in the poor, and thus remove from the crowded tenement-houses the source of a plague which is sapping and undermining the health of thousands and hurrying them to an untimely grave, and at the same time give to those already infected a chance to recover and become useful citizens to the State which has rescued them.

There is one thought brought out by the paper upon which we desire to dwell for a moment. Are the health authorities, State and Municipal, doing their full duty when they knowingly permit thousands of tuberculous cows to continue to spread infection, only because no funds have been provided by the State to

recompense owners in case their cattle are found infected and are destroyed? In what respect does the owner of a cow suffering from tuberculosis, who sells the product of such cow, differ from the vender of poisoned candy or adulterated food? Would it be a sufficient answer to the non-enforcement of the law against these violators to say that because the State had made no appropriation to reimburse them for such of their property as was confiscated, therefore, they should be permitted to continue the sale? If there were no means of detecting the presence of tuberculosis in the cow, save by post-mortem, then there might be some excuse; but with the tuberculin test, and the skill of the diagnostician to determine the physical condition, no owner of cows should be permitted to longer continue the sale of milk from an infected animal, and the animal itself should be killed and its carcass so effectually disposed of as to prevent all danger of spread of infection, and all this entirely and utterly irrespective of State compensation. Will our Societies urge this upon the health authorities? Could the money and the force at their disposal be better employed than in such an examination of the sources of milk-supply as will determine where the danger of infection lurks, and then bring forth an energetic effort to eradicate it?

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#### BACILLUS ICTEROIDES OR BACILLUS CHOLERÆ SUIS?

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Is Sanarelli's bacillus the causative factor of yellow fever, or simply a concomitant? The commission of medical officers of the Marine Hospital Service declares emphatically "that the micro-organism discovered by Professor Giuseppe Sanarelli, of the University of Bologna, Italy, and by him named 'Bacillus icteroides,' is the cause of yellow fever." Of fourteen cases of yellow fever examined they found the bacillus in thirteen. Sternberg, on the other hand, regards this bacillus as a pathogenic saprophyte occasionally present in the blood and tissues of yellow-fever patients, but holds that its etiologic relation has not yet been established. Of nineteen typical cases of yellow fever, in not one did Sternberg find the bacillus icteroides, and he believes that the bacillus cholæræ suis has been mistaken for it. As between experts of the character, reputation, and skill of those involved in this controversy it is impossible to arrive at a decision which is of any permanent value, and all that we can do is to do what we have done hitherto, *wait*.

## PROGRESS IN MEDICINE.

### OBSTETRICS.

BY CHARLES JEWETT, SC.D., M.D.

#### FRITSCH'S INCISION IN CÆSARIAN SECTION.

Cryzewicz (*Central. f. Gyn.*, No. 12, '99) discusses the merits of the fundal incision in connection with the report of a case in which he had operated by this method. Fifteen Fritsch's operations have been recorded, with the loss of one of the mothers. The fundal incision has been condemned by Braun and Everke as being more likely to be followed by hemorrhage and by intestinal adhesions, a condition more serious than the parietal adhesions after anterior incision. Cryzewicz, who has had an experience of eight classical Cæsarian sections, denies this.

In one of his Fritsch's operations the uterus remained flaccid after suturing. Manipulation of the fundus to expel clots forced but a drop or two of blood through the fundal wound. Ten times as much blood, he declares, escaped through the vertical incision in several instances in which he had applied pressure to the fundus after the uterine suture.

Hemorrhage depends in any method of operating, he contends, more upon atony of the uterus than the seat of incision.

Replying to the second objection C. submits that intestinal and omental interfere less with the development of the uterus in a subsequent pregnancy than do firm parietal adhesions.

In his experience the uterine cicatrix had been deeper and firmer after fundal than after the anterior incision.

#### APPENDICITIS IN CHILD BED.

Fioux (*Compt. Rend. de la Soc. d'Obstet. de Paris*, May, '99) operated in a case of appendicitis which developed on the twenty-seventh day after labor at the eighth month. The patient was a girl of nineteen years who had been the subject of obstinate constipation. F. cites a similar case reported by Lepage, and raises the question: Is the appendix infected from the genital tract? Vinay's two cases in which he referred the attack to this source

are not conclusive. Abraham's two cases are not clearly established, showing no evidence of uterine or tubo-ovarian infection. Yet pregnancy or the childbed condition Fieux thinks may be a causative factor in appendicitis owing to the increased tendency to constipation.

#### EARLY DIAGNOSIS OF PREGNANCY.

Braun-Fernwald (*Wien. Klin. Woch.*, Mar. 9, '99), discussing the early signs of pregnancy, declares that Hegar's sign is the most valuable. Diagnosis by any method is rarely possible before the end of the second month. Among the most reliable early signs are the shape, and the consistence of the entire uterus as well as of the isthmus. He calls attention to the fact that frequently one horn of the uterus is thicker and softer than the other. A distinct longitudinal groove marks the junction of the prominent and the smaller horn and the fundus often presents a saddle shape, the shallow depression lying nearer the smaller horn. In such cases the thicker half of the uterus marks the location of the growing ovum. This inequality in the thickness of the two halves of the fundus is in itself a sign of pregnancy. The earliest time in which he made the diagnosis was three days after the first period had been missed. By the same sign it was often possible to determine in course of abortion whether the ovum had been expelled or not. Its absence when other signs indicate pregnancy would be possible evidence of extra-uterine fetation.

#### GLYCOSURIA OF PREGNANCY AND THE PUERPERAL STATE.

Leduc, in a recent thesis, records an elaborate series of observations, several hundred in number, made on twenty-nine women at various stages of pregnancy and the puerperium with reference to the question of physiological glycosuria. Lactose was found more abundantly than glucose. The glycosuria of pregnant women he refers in part to hepatic irritability. Any notable quantity of sugar occurring in the urine of late pregnancy and of the puerperal period he found to be lactose, especially in women with full breasts and abundance of milk. The lactose is reabsorbed from the breasts and carried off by the kidneys. His conclusions are summed up as follows:

During pregnancy sugar diminished together with the other solids in the urine toward full term.

Lactosuria of pregnancy occurs in woman whose breasts con-

tain a large quantity of colostrum. It coincides very closely with glycosuria; both are slight and both physiological at this period.

In 60 per cent. of cases no sugar was found in the urine of gravid women.

The occurrence of albuminuria had no influence on the quantity of sugar.

After labor there was a marked increase in the proportion of lactose.

Lactosuria is at a maximum when the breasts are not relieved.

It disappears when the flow of milk is established.

If a woman is deprived of her child the lactose increases and may be accompanied by glucose.

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## PROCEEDINGS OF SOCIETIES.

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### PROCEEDINGS OF THE BROOKLYN GYNECOLOGICAL SOCIETY.

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*Stated Meeting, Held May 5, 1899.*

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The Vice-President, Robert L. Dickinson, M.D., in the Chair.

#### APPENDICITIS DURING PREGNANCY.

Dr. George McNaughton: One of these appendices was removed from a woman who was ten-weeks' pregnant, the diagnosis not being made before operation. The symptoms had been those of extra-uterine pregnancy, *i. e.*, loss of blood at intervals, constant and severe pain in the right side, and nausea. The abdomen was opened and, instead of an ectopic gestation, a normal pregnancy and an appendicitis were found. The appendix was removed, and the patient made a good recovery. The case was an extremely difficult one to examine because of the fact that the abdominal muscles were very tense.

The second specimen is an appendix removed from a man who had suffered almost constant pain for three or four weeks. The specimen shows a peculiar prominence of the blood-vessels in the upper part of the appendix, while the extremity is very anemic.

## DISCUSSION.

Dr. Chase: In the first case mentioned by Dr. McNaughton there was at least one symptom which always accompanies appendicitis, and that is the rigid, tense condition of the rectus muscle on the right side. I recall a very bad case of appendicitis in which the disease had not been recognized during previous attacks because the abdominal wall was so rigid that it was impossible to feel the tumor. In this case the patient, a young man, complained of pain on the left side. When examined under anesthesia the tumor could be easily felt through the abdominal wall.

In regard to appendicitis during pregnancy, I saw such a case the other day. When the abdomen was opened it was found that the appendix had broken down, and that little remained except a small portion which looked like a ring of rubber. This was removed, and the cavity packed with gauze. The woman did well, but aborted on the second or third day after the operation.

It is doubtless a matter of difficulty to distinguish between extra-uterine gestation or inflammatory conditions on the right side and disease of the appendix.

Dr. R. L. Dickinson: One reason why it is so difficult to make the differential diagnosis between appendicitis and tubal pregnancy is because certain symptoms—such as vomiting, for instance—are present which mask the trouble. A low appendicular abscess is very difficult to differentiate. In a case recently in my service at the Brooklyn Hospital the appendix was well down over the pelvic brim. The rectus muscle was rigid, the patient was vomiting, and there was a history of pregnancy with bleeding and threatened abortion. The diagnosis of appendicitis was not fully made until the patient was completely anesthetized, for not until then could the gap between the uterus and the mass be clearly made out. The appendix was removed through an abdominal incision, and a considerable quantity of pus was evacuated. A counter-opening was then made in the loin for the purpose of drainage, and the abdominal wound closed. The patient made an uninterrupted recovery.

Dr. McNaughton: In reply to Dr. Polak's question as to whether the first case I reported was one of recurrent appendicitis, and, if so, whether the right kidney was not movable, I would say that the condition is better described as *chronic* rather than *recurrent*. As to whether or not the right kidney was movable, this was not noted; however, as we are told that one out of



every four women has a movable kidney, I do not think that this point has much significance.

In regard to rigidity of the abdominal muscles being diagnostic of appendicitis, this rigidity is always present when there is peritonitis, whether the latter be due to appendicitis or to something else, so it cannot be said to be a pathognomonic sign of appendicitis.

About a year ago I operated upon a woman who had fearful attacks of pain on the right side. She had been seen by six or more physicians, and various diagnoses had been made, such as movable kidney, impacted gall-stones, etc. Only one made the correct diagnosis, and he was rewarded by being told that his services were no longer required. I made an incision through the linea semilunaris, and found an abnormal condition of the liver—a little tongue-shaped mass of normal liver occupying the position of the gall-bladder—and appendicitis. The appendix was removed, and the patient has had no trouble since. Prior to the operation she used to have about four attacks a year.



## MEDICAL SOCIETY OF THE COUNTY OF KINGS.

*711th regular meeting, held at Apollo Hall, Tuesday, June 20, 1899.*

President Hunt in the Chair.

The minutes of the previous meetings were read and, after correction, approved.

### REPORT OF COUNCIL.

The Council reported favorably upon the following applicants and recommended that they be elected to membership:

David Louis Cederholm, L. I. C. H., 1897.

Cornelius R. Love, L. I. C. H., 1897.

John A. Lee, Yale Univ., 1897.

James M. Forbes, L. I. C. H., 1897.

George A. Wardenburg, P. & S., N. Y.

Robert T. Briggs, L. I. C. H., 1898.

John J. Lyons, L. I. C. H., 1898.

John J. Colgan, L. I. C. H., 1882.

Richard S. Graves, Yale Univ., 1897.

Walter Howard Ross, Bell., 1898.

Edward L. Oatman, Bell., 1879.

Charles B. Bacon, Buffalo, 1897.

W. B. Snow, P. & S., N. Y., 1885.

PROPOSITIONS FOR MEMBERSHIP.

The following propositions were presented:

Furman N. Nichols, 95 Rodney St., N. Y. Med. Coll., 1852.

Proposed by D. Myerle and J. H. Hunt.

Walter A. Sherwood, M. E. Hosp., 7th avenue and 6th street, P. & S., N. Y., 1896. Proposed by J. P. Warbasse and H. P. De Forest.

E. C. Bennett, 249 58th street, P. & S., N. Y., 1886. Proposed by J. E. Sheppard and D. Myerle.

John C. Hart, 192 44th street, L. I. C. H., 1892. Proposed by J. E. Sheppard and R. J. Morrison.

ELECTION OF MEMBERS.

The following having been regularly proposed and favorably reported upon by Council, were declared by the President elected to membership:

H. T. Ziebarth, Med. Surg. Col. of Phila., 1895.

George W. Beatty, L. I. C. H., 1898.

Rosa Welt Straus, Berne Univ., 1878.

Wm. J. McAveny, L. I. C. H., 1898.

Thomas A. Pineo, L. I. C. H., 1898.

Frank Duffy, L. I. C. H., 1896.

SCIENTIFIC BUSINESS.

"A Few Remarks on Modern Foot-clothing or Foot-wear."—

By B. D. Mosher.

Discussion by Drs. Napier, McNaughton, Henry, Colton, Warbasse, Schroeder, and Hunt.

REPORTS OF COMMITTEES.

Dr. McNaughton reported on behalf of the Building Committee, that the new building was up and closed, and a tablet cut in the stone in front indicating what it is; that the Committee has al-

ready paid out over \$30,000 on it; that they needed more and would have probably to borrow; that probably the building would be ready for occupancy in the fall; that everything is progressing satisfactorily, being watched very closely by the architects; that the Committee still needs money; that it started out to get 100 men who would subscribe \$100 each; that they had obtained nearly 70 per cent. of that list and if the remaining 30 per cent. could be secured to complete the list it would place the Committee in a comfortable position. Dr. McNaughton stated that both he and Dr. Browning had a copy of the list and would be glad to submit it to any one—that what was needed was 30 One-Hundred-Dollar subscriptions.

Dr. Browning stated that the Committee was still busy with many details, that the illumination of the different rooms was remarkably good, and that the structure was of the most substantial nature. The additional subscription-list he considered was the greatest need at present.

#### NEW BUSINESS.

Dr. Henry called attention to the Hospital abuse which has recently been agitated by Comptroller Coler, and moved that a committee be appointed to draft resolutions as an expression from this Society that will be in keeping with the movement of Mr. Coler in reference to his disposition of the hospitals and dispensaries that are excessive.

This motion was seconded.

Dr. Henry read an editorial from the *Brooklyn Eagle* on the subject and Dr. Hutchinson spoke in support of the motion.

A motion by Dr. Burge, duly seconded, to adjourn, was put and lost.

Dr. Henry amended his motion to read: "That this Society endorses Mr. Coler's action in regard to the disposition of hospitals and dispensaries that are excessive."

Motion as amended was seconded, and a vote being taken was declared lost.

The President announced the death of Dr. Lawrence Swan Woodhull, on June 8th, who was a member of the Society from 1879 to 1899.

There being no further business, on motion the members adjourned to the anteroom and partook of refreshments provided by the Entertainment Committee.

ROBERT J. MORRISON,  
*Assistant Secretary.*

## PROCEEDINGS OF THE BROOKLYN GYNECOLOGICAL SOCIETY.

*Stated Meeting, Held June 2, 1899.*

The Secretary, Frederic Shoop, M.D., in the Chair.

### UNGUENTUM CREDÉ IN THE TREATMENT OF PELVIC EXUDATE.

Dr. John O. Polak: I have recently been using unguentum Credé in several cases of pelvic exudate with the most happy results. It is surprising how it reduced the temperature and diminishes the exudate. In one of the cases the exudate reached to the umbilicus, and the temperature was 102° to 103° F. There did not seem to be much toxemia present, and the case was one of those in which we usually prescribe rest in bed and laxatives. In two post-operative cases in which there was a temperature of 100° to 101° F. even after drainage was established, the ointment seemed to have a good effect upon the general condition of the patient in addition to controlling the temperature and reducing the size of the exudate. It is extremely good in cellulitis, and I believe that one man, a Dr. Jones of New York, has had the courage to use it in a case of puerperal sepsis with no other treatment. I am so well satisfied with the results obtained from the use of this ointment that I wish to call your attention to it in this preliminary report of my cases.

Dr. L. Grant Baldwin: I have had no experience whatever in the use of this ointment, but I am much interested in it, and will look forward to a further report on this method of treatment from Dr. Polak. I would like to ask him if in the cases in which he used this treatment there was pus, or whether they were merely cases in which there was a simple exudate. It has never been my good fortune to see a case of this kind in which there was no pus. If this ointment will cause the disappearance of large exudates and carry off pus without drainage it is certainly well worth using.

Dr. E. A. Day: I have had no experience in this direction. Will Dr. Polak kindly give us the philosophy of this treatment.

Dr. Polak: Dr. Baldwin's question as to whether there was pus in these cases raises a very interesting point. In the first

case referred to, in which the exudate was very large, the abdominal cavity was not opened, and consequently I cannot say whether there was pus there or not. There are exudates which, whether they do or do not contain pus, will disappear after rest in bed. I have seen several cases this winter in which the patients have recovered without an operation. Still, I can say with Dr. Baldwin that I have never opened an exudate in which I have not found pus, sero-pus, or broken-down material; therefore, in cases in which the temperature reaches 103° F. and remains there, the better plan is to open *per vaginam*, and drain them.

In regard to Dr. Day's question, I cannot tell him anything about the philosophy of the treatment. I believe, however, that Credé claims that this ointment has a direct bactericidal effect upon the streptococcus and communis bacillus, especially the former. I suppose it acts in the same way as antistreptococcic serum. In my hands it has certainly acted better than that has.

Dr. B. G. Baldwin: I would like to ask Dr. Polak if he refers only to cases of cellulitis or to all cases in which there is pus in the pelvis when he speaks of the patients having a temperature of 102° to 103° F. If the latter is the case, the point is not well taken, for many patients who have pus in the pelvis have no temperature at all. In a recent case, which is still in the hospital, we found an acute suppurative peritonitis, yet the pulse and temperature were normal, the patient walked to the hospital, and worked about the wards for a week before operation, while we were waiting until her menstruation ceased. When the abdomen was opened the pelvic cavity was found full of pus, and one of the tubes was as thick as my thumb, and contained greenish pus.

Dr. Polak: I did not mean to imply that there could not be pus in the pelvis without there being a temperature of 102° or 103° F.; but I do think that you will find pus, or something like pus, in those cases in which the temperature remains at 102° or 103° F., and does not come down more than a fraction of a degree in the morning. Of course, we have all seen cases in which there is pus in the tubes or in the pelvis, beautifully walled off, with a temperature not over 99° F.

Dr. L. G. Langstaff read the paper of the evening on the subject "Notes on Uterine Hemorrhage."

The Society adjourned to meet again on the first Friday in October.

JOHN O. POLK, M.D.,  
*Secretary Pro tem.*

## HISTORICAL DEPARTMENT.

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### GEORGE I. BENNET, M.D.

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Dr. Bennet was born November 18, 1809, and died in Brooklyn, N. Y., August 1, 1875. He studied medicine at the University Medical College, New York, from which institution he graduated M.D. in 1842, being the first class graduating from the Medical Department of the University of the City of New York.

The doctor gave considerable attention to the question of temperance. So much interested was he in this subject that on Sunday afternoons he was in the habit of lecturing to the people at large at Fort Greene Plaza. Dr. J. G. Johnson of this city prepared a number of stomachs of patients who had died from alcoholism, which were used to illustrate his text. He practised medicine in this city during his professional life. His connection with the Medical Society of the County of Kings dates from 1842; retaining his membership until his death; being Vice-President in 1851, and President in 1855; Censor in 1858, and Librarian 1859 to 1869; member of the Brooklyn Medico-Chirurgical Society 1856-'66.

He presented a paper in 1860, "Cold a Cause of Miscarriage," and in 1862 reported "A Case of Miscarriage."

His son, Dr. George H. R. Bennet, is in the active practice of his profession in this city.

WILLIAM SCHROEDER, M.D.,  
*Sec. of the Hist. Com.*

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### SAMUEL BOYD, JR., M.D.

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Born in New York City, July 12, 1806, and died in Brooklyn, N. Y., March 7, 1860. His father was Samuel Boyd of New York, and his mother Adelaide Pearson of New Jersey. His early education was received in the schools of New York.

October 27, 1829, he married Sophia E. Keyser of Baltimore, Md. The children born as the result of this union were: Ella, Adelaide, John C., Alexander McT., Robert H., Samuel K., James

K., Charles, Indiana K., and Mrs. Sophia E. Marriott. The last two are still living.

Dr. Boyd began the study of medicine in 1825 in the City of New York, under the preceptorship of the late Dr. Alexander Stephens, and graduated M.D. from the College of Physicians and Surgeons, New York, in 1828.

He then spent a year in the hospitals of Dublin, Edinburgh, and Paris. Returning to this country, he engaged in the practice of medicine in the City of New York in 1829. The following year he came to Brooklyn, where he remained until his death, excepting the years 1844-'48. During this time he was located at Staten Island.

From 1840-'43 he was Visiting Physician, City Hospital, and 1844-'48 Physician of the Seaman's Retreat at Staten Island; Surgeon in the war with Florida Indians, 1835-'43; Health Officer, City of Brooklyn, 1857-'59.

His connection with the Medical Society of the County of Kings dates from 1834, being President of the Society in 1857 and Delegate to the New York State Medical Society in 1835. A member of Plymouth Church from 1854-'60.

Besides his reports as Health Officer, he published a pamphlet on the treatment of yellow fever in 1856. The life-work herewith presented is one in which we may all take pride. The different positions he was called upon to fill show his intellectual development, the true character of the man and physician.

WILLIAM SCHROEDER, M.D.,  
*Sec. of the Hist. Com.*

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## MISCELLANEOUS.

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### THE RIGHT TO QUARANTINE.

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The right of health authorities to isolate persons who have been exposed to smallpox, even before the disease manifested itself, has been questioned by some and denied emphatically by others; the latter claiming that until the characteristic symptoms appeared no one should be deprived of his liberty, even though he had been exposed and was entirely unprotected by vaccination.

Six colored persons in Philadelphia, who had been exposed to smallpox, were recently taken to the Municipal Hospital where they were restrained. The question as to whether they

could be kept in quarantine, was agitated, and a writ of habeas corpus directed against Dr. William M. Welch, in charge of the hospital. When the matter came up for hearing, Dr. Welch stated that: "The parties were detained for the usual period of incubation to pass, which may be a little more or less than two weeks." The judge therefore dismissed the writ applied for and decided that the health of the public necessitated their remaining in the hospital.

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### CARDIAC DEGENERATION AS EXEMPLIFIED IN THE SOLDIER OF THE LATE WAR.

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BY HENRY A. FAIRBAIRN, MD.,  
Brooklyn.

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Reprint from Transactions of the Medical Society of the State of New  
York, 1899.

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When we speak of an organ as degenerated we imply that there has been a deterioration in its structure, that a change has taken place in the elements of its tissue, that there has been a disturbance in its nutrition, and in consequence of this we look for impaired function and possible suspension of function. Degeneration exhibits itself to us in the more or less failure and incapacity.

We propose to speak of the clinical aspects of degeneration as we have observed it to occur in the heart muscle and ganglia during and after the acute specific fevers, due to parenchymatous myocarditis of toxin origin, and due also to the nutritional disturbances attendant on those fevers.

There is much generalization to-day about the action of the pathogenic micro-organisms. That there is too much, the work of the bacteriologist and physiological chemist warns us. Their study is rapidly working out the ultimate result of the effect of the toxins of these organisms on the various tissues, and it is from this source that comes the detail which will do away with the generalization. The text-book is still prone to lay stress on the lesion from which the disease derives its name, and to pass over the rest of the damage done with brief mention. For instance, the intestinal lesions in enteric fever are held up to view as the most important ones, most important from the therapeutic



as well as the prognostic standpoint, and this is well as far as it goes. It is not well when it leads the attendant to allow his patient to pass from observation after danger from this source has ceased. There are others to be taken into consideration, which subsequent examination of such cases often proves.

The systematic invasion by the microbe with the production of toxins means interference with the cell, its functions, its nutrition, its structure. This holds true in the case of the cellular elements of the nervous, muscular, glandular or lymphatic and circulatory systems. The process leads to organic change which may be very slight, may be short in duration or may be extensive and prolonged, and even permanent, in short, end in permanent disability. We see immediately from this view of the matter that a very complex process is inaugurated by such invasion. With the organic changes thus established, and the disturbance of function, there must arise trouble in the normal operations of the body, and here will arise a second source of diseased condition. Certain products must be daily absorbed and elaborated and disassimilated to carry on the ordinary operations of repair and waste. The pathogenic micro-organism steps in to interfere with such operation. We have, therefore, in this case, two fountain heads of toxic material, the toxins from the invader and that which comes from the tissues, secreting organs, foods, and putrefaction, a revolution having been established in the organism invaded, with the overturning of its ordinary laws.

If we study the effect on the heart of diseases due to microbic invasion we will necessarily find two conditions, one due to the direct action of the toxin of the invader, and the other due to the demoralization excited among the functions of the body, which we will call nutritional disturbances.

Post-mortem examination reveals the fact that various changes are liable to occur in the myocardium and endocardium under these circumstances, and that they occur also in the nervous ganglia upon which the organ depends largely. They are of the varieties denominated inflammatory and degenerative, and at times lead to necrosis. Professor J. M. Van Cott made an autopsy on a soldier, a convalescent from typhoid fever, who had been under treatment in the Brooklyn Hospital. His heart had given moderate signs of degenerative changes during the latter part of the disease. In the face of repeated warning he was guilty one night of marked imprudence in the use of food and alcohol, and on return to the hospital expired very promptly from

acute dilatation. The autopsy revealed fatty and granular and other degenerative processes, due, no doubt, to infection and nutritional disturbance.

But we do not propose to enumerate the anatomical changes in detail. Suffice it to say that they lead to change in structure, weakening of structure, and therefore more or less incapacity to perform function. Fortunately these alterations do not always occur markedly. But that they do at times is a fact of sufficient importance to put one on his guard, for with proper care permanent damage may be avoided.

We are naturally led to inquire what are the symptoms pointing to these changes. The most apparent symptom is continued feebleness in cardiac impulse. Palpation will locate with difficulty the apex. If the impulse is perceptible at all, it will be found frequently diffused. The pulse will be small and compressible, or, in other words, the ventricular wall will give signs of insufficient force to do its work properly.

If we examine the heart in this condition by auscultation we will observe a change from the normal, the soft-blowing systolic murmurs at the apex and over the body of the ventricle being present in many cases, probably accounted for by relaxation of the ventricular wall, with a loss in muscular tension, and consequent imperfect apposition of the valves. This symptom may be in abeyance during a period of quiet and in the recumbent posture. Again, we may find the rhythm interfered with in various ways, giving one the impression that the right and left ventricle have parted company, or are working independently, and then you may find the decided intermission.

Again, the retarded venous flow warns us of failure of the heart to do its work properly. Cyanosis in various degrees may be found. The increased dulness on percussion at the bases of the lungs, with the fine subcrepitant and moist râles, yields to us important signs of sluggish circulation, these being so marked at times in one lung as to give the impression of intercurrent pneumonia. Edema may show itself in various parts of the body also. The liver will feel the retardation of the current, and increase in size.

There is another symptom due to the same cause, and that is emaciation. This has been explained as due to interference with the absorbents, they being unable through deficient supply of blood to take up food properly, and being unable to properly deliver their lightened burden by reason of the retarded current,

the intravenous pressure at the point of entrance of the thoracic duct offering a barrier.

The attacks of dyspnea which occur so frequently in these cases have their origin in disordered innervation as well as disturbed circulation.

Again, we have vertigo and annoying tinnitus aurium. These symptoms when intensified are familiar to us all from the description given by persons attacked by sudden syncope. Insomnia is another frequent and distressing phenomenon coupled with degeneration of the heart-muscle. Its presence may at times be the important symptom for supportive treatment.

We have spoken of a change in the rhythm of the heart's action. We are safe in ascribing this to an improper nerve supply. Investigation has shown that the ganglionic cells may be profoundly affected by the toxins, that at times organic change, degeneration in them, follows their invasion. It may be repaired or it may go on to necrosis, destruction of the cell. But the degenerative process will manifest itself at first by loss of power, and that loss of power will manifest itself in the disturbance of the function of the ganglionic cell or nerve-fiber; we will have added to the disturbance of rhythm faulty trophic nerve influence and nutritive changes in the muscular tissues supplied by the ganglia. An additional cause of degeneration will therefore be added to those already mentioned.

Another point to be observed is the size of the heart. Dilation may take place with increase in the area of dulness on percussion. It is a difficult, almost impossible, task to note slight changes accurately. It is well to attempt it, however. It will at times yield valuable evidence. There have been laudable attempts to reduce this procedure to mathematical accuracy. Long experience and more than usual skill will be required to note the minute changes recorded by some.

We have thus far considered the symptoms ordinarily presented to us of degenerative changes in the heart-wall as they appear during and after the specific fevers. There are some other elements to be considered in a certain class of cases where there has been hypertrophy due to occupation and disturbed innervation. Increased functional activity and prolonged muscular exertion produce a thicker and stronger heart-wall. We see this in the laborer and the athlete. It has been fully and completely described in the case of the soldier, and confirmed by autopsy. If the use of alcohol and tobacco be superadded to the

increased activity, and if there be in addition continued emotional disturbance, we will have additional causes for hypertrophy from the stimulation of the cardiac ganglia by these agents. The nutritive disturbance which takes place in such a hypertrophied heart during a course of fever will be more marked than in an ordinary heart. The accustomed activity, the accustomed excitants, the former free supply of oxygen, being removed, there must be a retrogression. This retrogression normally results in the product fat, and is oxidized and removed. But in the abnormal condition where there are disordered metabolism and increased formation the products accumulate. There is a nutritive disturbance with fatty degeneration as a result. It may be answered that there is a decrease in the work in this case required to be performed. True in part, but there is an element here introduced which will render the organ in a measure unfit to perform its former work, an element which must be taken into consideration in the care of the patient in convalescence, and one which must influence the physician's judgment in advising the resumption of an occupation. A long time and careful exercise will be required to restore the muscle to its former strength.

So much for the symptoms of this condition. Now what is their significance, and what the prognosis? The significance is that there is danger of dilatation or complete failure of the heart-muscle. Their significance is that the heart is not to be subjected to extra strain, as the muscle is in such a changed condition that it is, at least temporarily, unprepared for ordinary or extraordinary work. They furnish another indication, and that is for active medicinal treatment from the very beginning.

The prognosis, we are led to believe by statistics, is in the main not unfavorable if the process is not extensive and if proper care is exercised. It is a condition often overlooked before dilatation occurs and that may be delayed for some time after the patient has been pronounced cured of his fever. We must remember that patients are discharged from the institutions from which these statistics come very soon after they are able to walk about. They pass from observation, and the opportunity to note remote results is lost. We must look to the general practitioner for knowledge of the latter. In support of this we may cite another instance which shows how misleading hospital records are in this particular. I refer to the record of results obtained in the treatment of fractures. The fact of union and the length of limb are noted, and the cure recorded. But you know and I

know that the patient discharged as soon as union has taken place is in no position to exercise the member as he did before the injury. We hear little or nothing as to the restoration of function. Many months elapse before the normal function is restored. There are instances where it is never entirely restored, but the record of cure stands on the books.

It is the fashion to ascribe the murmurs and other symptoms of the condition under consideration to anemia, and to prophesy that its removal will end the trouble. Little comfort is to be gathered from such decision, especially when it is noted that degenerative changes are prone to occur in the anemic condition. Where the symptoms appear the patient should be watched and treated for a long time. Extended observation in private practice has made me very guarded in ultimate prognosis in the case of infectious disease. The press of the day frequently records the sudden death in the individual from overstrain, emotional and otherwise, and such deaths have their main cause in a heart-wall weakened by change in its structure from various causes.

Our treatment must be based on certain physiological laws which govern the heart. We know that oxygen is very necessary for vigorous cardiac function. Dr. W. T. Porter has recently demonstrated what a marked stimulus it is to such function. He has found that even isolated portions of the mammalian ventricle supplied through their nutrient arteries with a small quantity of serum at very low pressure, will maintain long-continued forceful contraction when surrounded by oxygen at high tension.\*

We know that a large blood supply is necessary to the well-being of the heart-muscle, and that supply is received mainly through the coronary arteries, although the vessels of Thebesius and the coronary veins furnish their portion. Morbid conditions and experiment have proved the truth of this statement. Another fact well to bear in mind is that the volume of blood passing through the coronary vessels is increased by an increase of the force of the heart's beat, and *vice versa*. The coronary circulation is diminished by undue distention of the ventricle; such distention may arise from contracted peripheral arteries as well as violent and prolonged muscular effort.† The coronary arteries receive their burden during cardiac diastole. If we can prolong that at the same time we increase the force, we may reasonably expect benefit. On this basis we have treated the

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\**The American Journal of Physiology*, vol. i, No. 4, 1898.

†*Ibid.*, vol. i, Nos. 1 and 5, 1898.

condition with a measure of success, especially in the case of the soldier under our care in the hospital during the past weeks.

A superabundance of fresh air was supplied as the first requisite. The second was the careful use of heart stimulants with measures to relax arterial tension if it existed. Strychnine, belladonna, and nitroglycerin have admirably fulfilled these indications, alcohol, digitalis, and its class being reserved for emergency. In some cases small and repeated doses of morphine soothed the heart and increased the force with marked effect. Quinine in small doses, frequently repeated, was used with the latter end in view, acting as it does in these small doses to directly stimulate the heart's muscle. Its antimycotic property also rendered its use of special value in this class of cases.

The recumbent posture was enforced, not only during the acute stage of the disease, but for a long time after convalescence was established, it having the effect to slow the heart's action and decrease its burden.

We were particularly careful in the matter of diet, bearing in mind the disturbance caused by distention of the stomach and also the increased work imposed on the heart by the digestive process. The diet was limited in quantity and confined to the most nutritious articles. The deviation from this, due to the intervention of generous friends with their so-called delicacies, caused much trouble, and in one case well-nigh fatal results. As soon as the heart failed to be much disturbed by the sitting posture, and thereafter by motion around the ward or room, and by rapid breathing, the patients were sent out of doors for moderate walks. They were not permitted to mount the stairs for some days, and then only under the careful eye of the physician, any appearance of dyspnea or marked disturbance in the circulation being a signal for the subsequent use of the elevator. They were finally discharged from the hospital with the advice to avoid undue exertion for some months, and in the meantime to place themselves under the observation of a physician.

A short sketch of the condition as observed in the case of the soldier may be of interest:

During September and December and a portion of October of last year and January of this year, I had under observation in St. John's Hospital, Brooklyn, N. Y., a number of soldiers, 272 all told, who had been engaged in the military operations of the late war with Spain. They presented signs of infection. There were some cases of typhoid fever among them, but the large ma-

jority were suffering from the effect of malarial infection in various degrees. In 155 of these there was marked disturbance of the vascular system which persisted in its manifestations until the time of their departure from the hospital. Of these, three only presented well-marked signs of endocarditis; 133 presented the soft systolic blowing murmurs at the apex and over the body of the ventricle, which I ascribed to the weakened condition of the heart-wall. There were six with slight dilatation, eight with hypertrophy accompanied by murmurs, and five others exhibited the condition of tachycardia. Our records denominate the circulation of thirty-two others as weak.

There was no opportunity to examine the heart post-mortem, as the mortality was nil, but the presumption is in favor of parenchymatous degenerative changes as the basis of the symptom. That presumption rests on the knowledge of the effect of the toxins on the heart-tissue, the persistence of the condition, the results of post-mortem examinations in similar cases, and the experience gained by some years of observation. That experience has impressed on me the necessity of keeping patients under observation for a long time after the usual symptoms of the infectious diseases have subsided, to make sure that organic changes have not interfered with the normal function of that organ, pre-eminent in importance, the heart. I have had the misfortune to retain on my list some unpromising cases, but have the comfort of feeling that early-discovered symptoms of weakness in the cardiac wall have done much to prevent increase of that list.

Opportunity has offered to examine five of the soldiers some weeks after their recovery from the fever. Their condition confirmed my first belief. The ankles were slightly edematous in three, some dyspnea was present in all on marked exertion. There was no renal difficulty, the pulse was rapid and weak. Systolic murmurs developed at apex on exertion. They all showed signs of slight dilatation, the cardiac impulse being diffused over considerable space.

And what does this experience teach? Restrain your patient and measure well his capacity for endurance after leaving the sick-room. In his degenerated tissues, in organic change requiring most careful treatment to repair, will be found the answer to the question, and it may be a complaint of parents and friends as to the prolonged convalescence.

## NEW BOOKS AND BOOK NOTICES.

*All books received by the JOURNAL are deposited permanently in the Library of the Medical Society of the County of Kings.*

TWENTIETH-CENTURY PRACTICE OF MEDICINE. VOL. XVII. Infectious Diseases, Lobar Pneumonia, Cerebrospinal Meningitis, Dysentery, Yaws, Inflammation, Erysipelas, Simple Continued Fever, Relapsing Fever, Typhoid Fever. William Wood & Co., New York.

The first article in this volume, entitled "Lobar Pneumonia," is very much to the purpose. We have heard from A. H. Smith, on this subject, through monograph, discussion, and medical periodical. It is a pleasure to find his ripe knowledge at last gathered together in a permanent form. We have read it with unflagging interest from beginning to end. He presents the various views and theories which have been advanced from time to time, compares and weighs them, and gives us the most advanced and tenable conclusions. In his bibliographical references he might have been a little more generous to his fellow countrymen, but the critic who attempts to find fault with his work in the main ought to have his ears pulled.

We would be pleased to devote much space to the other articles in this volume. They deserve it. High character and learning mark every one of them. As we turn the pages we come up against that ancient mariner "Simple Continued Fever." The author uses the best argument against the use of the expression by the synonyms he employs in the first lines. Ptomainic fever, irritative fever, nervous, mountain, Idiopathic, etc., etc., etc. And that tells the whole story. It draws the picture of practitioner with a disease on hand he cannot satisfactorily diagnose and using various terms to put off the annoying questions of relatives and "them fellers" who cross-examine him. The quicker this term is cast out the better. Fever has its causes and woe unto him who proceeds to treat it without unearthing such causes. "*Complicated Continued Fever*" would sound more nearly true, but better still, fever. Hiding under this broad genus the search for specifics can be safely pushed.

Typhoid fever is treated of very fully by Drs. John S. Thacher and John Winters Brannan. The latter gives some space to that amazing venture in the line of dogmatism and therapeutics—Woodbridge. We hardly see the place for such work in a scientific book. He denominates Woodbridge's formulæ as fantastic. He fails to brand the statement that "death is a wholly unnecessary consequence of typhoid fever" as it should be.

Among the complications and sequelæ he notes the changes in the circulatory system. He drops all nonsense about "weak heart" and "heart failure" and properly places the cause of damage on toxic poisoning. A paper issued from Brooklyn early in the year which dealt with this same subject. Neither this nor some others is recognized by the author.

The volume is a delightful one, direct and entertaining reading. We



would like to arm ourselves with all the volumes so far published and summon the "Christian scientist," "osteopath," and the nondescript crowd of their kind to accompany us to the legislative hall of this State. What would happen when a comparison would follow between the work of the best scholars of the land and the outrageous, senseless stuff that emanates from modern quackery! We are disposed to think that assemblyman and senator would hide their faces in shame and without argument put an end to the blood-thirsty career of a set of parasites who prey on the lives and health of their constituents.

**PROGRESSIVE MEDICINE. VOL. II.** A Quarterly Digest of Advances, Discoveries, and Improvements in the Medical and Surgical Sciences. Edited by Hobart Amory Hare, M.D., Professor of Therapeutics and Materia Medica in the Jefferson Medical College of Philadelphia. Octavo, handsomely bound in cloth, 472 pages, 56 illustrations and 3 full-page plates. Lea Brothers & Co., Philadelphia and New York.

We were greatly pleased with the first volume of this work. There are some features of this present one which we would remark: French, German, and English literature appears to greatly overshadow American, especially in the matter of surgery. This is the case in the article on appendicitis. We see no reference to important work done in the latter field by Brooklyn surgeons. Not the slightest notice is taken of either Fowler or Delatour. This may account for the omission of that important procedure, rectal examination. The task undertaken by the authors of the various chapters, as we understand it, was to put before the reader certain definite conclusions as to the progress made in different departments of medicine, with the data for these conclusions: Surgery of the abdomen including hernia, gynecology, diseases of the blood, spleen, thyroid gland and lymphatic system; diathetic and metabolic disorders, and ophthalmology are the subjects treated of in this volume. Fair judgment, judicious selection of material and brevity are the characteristics.

The work is well illustrated and a credit to authors and publishers. It will be an addition to our libraries.

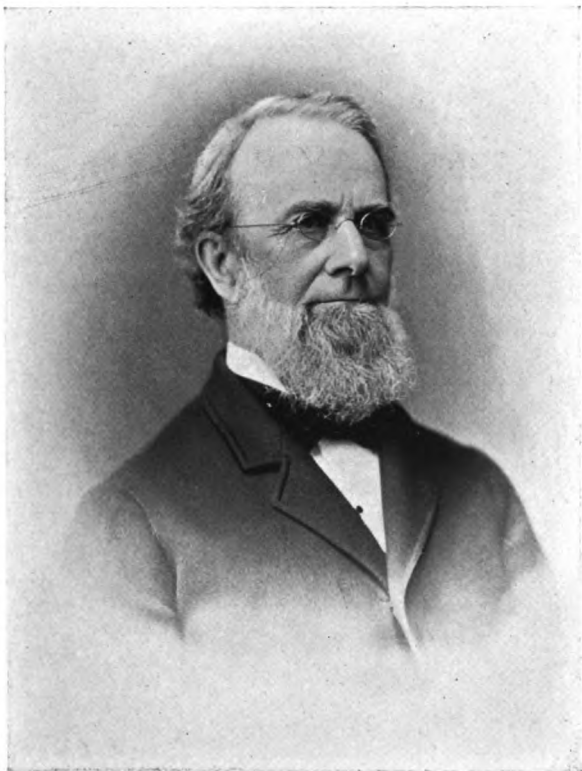
**PRACTICAL DIAGNOSIS.** The Use of Symptoms in the Diagnosis of Disease. By Hobart Amory Hare, M.D., B.Sc., Professor of Therapeutics and Materia Medica in the Jefferson Medical College of Philadelphia. Fourth edition, enlarged and thoroughly revised. In one octavo volume of 623 pages, with 205 engravings and 14 full-page colored plates. Cloth, \$5.00, *net*. Lea Brothers & Co., Publishers, Philadelphia and New York.

Four editions in three years ought to bring happiness to author and publisher of a book. Such is the record of the work in question. In this last edition some additions have been made in the matter of illustrations and text.





**GEO. I. BENNET, M.D.**



CHRISTOPHER RABORG McCLELLAND, M.D.,  
PRESIDENT OF THE MEDICAL SOCIETY, COUNTY OF KINGS, 1861.



# THE BROOKLYN MEDICAL JOURNAL

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## ORIGINAL ARTICLES.

No paper published or to be published elsewhere as original will be accepted in this department.

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### NOTES ON TUBERCULAR KIDNEY AND POST- OPERATIVE ANURIA.

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BY JOHN O. POLAK, B.SC., M.D.,

Professor of Obstetrics, New York Post-Graduate Medical School; Surgeon, Williamsburgh Hospital.

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Recent experiences with tubercular kidney give occasion for the few notes which I am about to present for your consideration.

Tubercular kidney is either primary, when it is unilateral, confined to the kidney alone or involving kidney and ureter, with occasionally more or less extension to the bladder, or it is secondary, coincident with or depending upon a general tubercular constitution, in which case the disease is usually bilateral.

It is to the former class of cases that I wish to direct your attention. For in these the chance of ultimate cure is becoming better every year, owing to early recognition and perfected nephrectomy and ureterectomy.

The disease is so insidious that as a rule it escapes the atten-

tion of the practitioner because of the absence of *marked* or *distressing* symptoms.

An absence of hematuria was noted in all of my cases, with one exception. The usual symptomatology was an *increased frequency in urination*, with little or no pain attending the act. Occasionally more or less tenesmus was complained of.

Pain in the lumbar region was variable as to amount and character. Tenderness more or less marked on deep palpation over the suspected kidney was present in each case.

*Continued and progressive emaciation*, notwithstanding a generous diet and tonic treatment, was the most notable symptom recorded. One remarkable feature, and one which materially embarrassed diagnosis, was the difficulty of detecting the tubercle bacilli in the urinary sediment, by the microscope. Their appearance seemed to be transient. That this fact has been recognized by other observers is shown by Reynolds, in his excellent article on this subject (*Med. News*, Aug. 9, '99), where, after speaking of the unreliability of the microscope, unsupported, he advocates the inoculation of guinea-pigs with the suspected urine; these promptly become infected and rapidly succumb to the disease, leaving no doubt as to the diagnosis. This test is of particular value in the absence of hematuria. The bacilli are notably scarce when this symptom is absent.

In one of his cases, while nephrectomy showed a kidney with two abscess cavities, the pus swarming with bacilli, repeated microscopic examinations of the divided urine failed to demonstrate their presence. But inoculation of a guinea-pig with the urine produced a prompt infection. In all of my cases the presence of the tubercle bacillus has been variable. In one, the history of which is appended to these notes, no pathogenic *bacteria* were found in the urinary sediment by repeated examinations, notwithstanding the specimen which I show you has sustained most extensive destruction.

Nephrectomy in selected cases offers great hopes of a happy prognosis.

Even in patients whose kidney structure on one side is almost totally destroyed, extirpation of kidney and ureter prolong life and ultimate cure is not uncommon.

The ureter on the affected side should also be completely removed, even to excision of its vesical orifice.

Kelly and Ills have strongly advocated this plan as surgical

and scientific, and as far as my experience goes, no argument can controvert it.

Some of the general surgeons differ from this radical view, claiming that by the removal of the infected focus above, the disease in the ureter ceases.

My experience does not warrant this view. Though I must admit, that in one patient with a ureter thickened to the size of my thumb, and peri-ureteral induration at its vesical end, which fixed the bladder on that side, the conditions were hardly appreciable six months after nephrectomy.

The specimen which I present to you to-night was removed from a patient with the following history:

Mrs. D., twenty-nine, no children, came to me two years ago complaining of irritability of the bladder. At that time the pelvic examination was negative, and direct cystoscopy failed to show any diseased area, except a "pouting" of the right ureteral orifice. There was no pus in the urine. Almost no pain was complained of in the right lumbar region. Though slight tenderness was elicited by deep pressure over the kidney of that side. Incidentally, the patient called my attention to the fact that she had been losing flesh for several months, notwithstanding that her appetite had been excellent during this time.

I advised that she come into the hospital for observation, that the ureters might be catheterized and the divided urines examined.

The patient was lost track of until June, 1899, when she was sent to me by Dr. Siegel for operation. She gave a history of chills, fever, sweats, and rapid emaciation since February, 1899. Her appearance was septic.

On examination a tumor the size of a fetal head was readily detected in the right lumbar region, the ureter could be distinctly followed over the pelvic brim. On exploring the vagina the uterus and base of the bladder were found to be fixed on the right side by an inflammatory exudate about the ureter. After washing out the bladder the urine from each kidney was collected by means of the Harris apparatus. The right drained pure pus. The left, normal urine. No pathogenic bacteria were demonstrated by the microscope. Three examinations were made.

*Diagnosis.*—Pus-kidney—probably tubercular?

On June 14, 1899, after carefully preparing the patient by means of saline enemata, which had resulted in increasing her urinary secretion to over (40) forty ounces per diem, a nephrectomy was made through an anterior abdominal incision. Con-



siderable difficulty was experienced in freeing the tumor from adhesions about the hilum and ureter, which lay in a bed of exudate in which no line of cleavage could be found. The ureter was excised at the pelvic brim, the stump ligated and cauterized with carbolic acid. Unfortunately no Paquelin was at hand. This defect in technique was a costly one to my patient. A fistula in the lumbar region remaining for two months.

The shock produced by operation was intense, entero-infusion being resorted to while the patient was on the table.

Great variation was noted in the cardiac action, as the renal artery and vein were being tied, the pulse becoming rapid, irregular, and finally imperceptible at the wrist. Regularity was soon reestablished. This phenomenon has been noted in all of the writer's nephrectomies to a greater or less degree.

The lumbar fossa was carefully dried of blood, clots, etc., posterior drain inserted through the loin, the belly filled with hot normal salt solution, and the abdominal wound closed.

The patient was returned to bed, with a pulse of 140, of fair quality, and Clarke's position maintained for the first forty-eight hours.

The only point of interest in her convalescence is the action of the remaining kidney, which behaved admirably for the first twenty days after operation, the secretion varying from 17-29 ounces per diem. The urine was free from pus on the (5th) fifth day. While the quantity of urine passed was somewhat below the normal, the activity of the skin made up for this shortage.

After former nephrectomies the writer has had many anxious moments, because of the temporary anuria which has occurred during the first forty-eight hours.

In order to combat this possibility in this patient, entero-infusion of a pint or more of normal salt solution was employed every (2) two hours for the first (4) four days, then every (6) six hours, and finally repeated night and morning. Nitroglycerin,  $\frac{1}{100}$  of a grain (and inhalations of oxygen), every (3) three hours, also contributed to maintaining the circulatory equilibrium of the kidney.

On July 4, 1899, undoubtedly as a result of using the colon and rectum so extensively for so long a time, a serous diarrhea occurred, and persisted for several days, notwithstanding treatment for its control.

This was followed in rapid succession by marked emaciation, persistent vomiting, subnormal temperature, a rapid and irregular

pulse, and anuria, accompanied by headache and amaurosis, which completely changed the prognosis.

The extremities became cold and clammy, and nothing could be retained by either stomach or bowel.

This was followed by cupping and poulticing the loin over the cephalic vein at a temperature of 110° F. changed the whole aspect of the case.

This was followed by cupping and poulticing the loin over the left kidney, and nitroglycerin was administered every (2) two hours hypodermically. The result was most impressive.

The pulse improved in quality and diminished in frequency, the renal secretion became reestablished, and the urine increased from one to thirteen ounces, and the vomiting ceased.

The irritability of the rectum was quieted with opium and several gallons of rectal irrigation given every (3) three hours.

From this on no further trouble was experienced, and my patient made a rapid and satisfactory recovery.

When seen three weeks ago she had gained in flesh and was feeling well.

Twice before in post-operative anuria the writer has been able to change what seemed to be certain death into a recovery by saline infusion and rectal irrigation, and so commends it for your consideration.

#### DISCUSSION.

Dr. Polak: I have here the kidney that was removed, and the interesting point I wanted to bring out was that while the pus in the foci, of which you see the cavities here [indicating], was loaded with bacteria, yet we were unable in two examinations by Dr. Hyde, and one, which was not as well done by myself, to define anything in the way of tubercle bacilli in the urine.

Dr. McNaughton: I would like to ask Dr. Polak about his incision; was it through the peritoneum, or was it an extra-peritoneal operation?

Dr. Polak: It was right through the peritoneum.

Dr. Hopkins: Mr. President, the point in Dr. Polak's paper that interested me most is the saline infusion. I believe we have one of the most powerful remedies in surgical procedures in the use of the salines. In all my laparotomies now my routine practise is, before the patient comes out of the anesthetic, to give a saline infusion, and repeat it regularly every two hours, and it

does undoubtedly whip up the action of the kidneys when they are sluggish.

Dr. McNaughton: Dr. Hopkins surely does not mean he uses that in every case.

Dr. Hopkins: My regular practise is after every laparotomy to use a small saline irrigation, about half a pint, and it relieves nausea and acts on the kidneys. Since I have been using that I do not find so many cases of nausea after anesthesia. It is a routine practise with me and I have been following it up now for eighteen months regularly, and I am convinced it is one of the most potent remedies we have. Normal salt solution I consider the strongest stimulant; I have given as much as five quarts before taking the patient out of the operating-room. I had one patient who was almost exsanguinous—a case of abdominal operation—and I gave her two quarts of normal solution by the brachial vein and three quarts by the rectum, above the sigmoid flexure. The patient had no bad symptoms, and was returned to the ward.

Dr. McNaughton: I do not think any one would question the potency of saline irrigation any more than one would question the potency of a dose of strychnin; it is all right in the proper place, but to make that a routine treatment would seem to be unnecessary; you cannot give that to patients without disturbing them more or less, and doing that at regular intervals when there is no indication for its use, it seems to me—well, if I was a patient I would rather not have it.

Dr. Hopkins: Excuse me for taking the floor again, Mr. President, but every entrance into the abdominal cavity is a shock. We reduce that shock by the saline; the patient is helped undoubtedly—there is no question about that. I have watched it very closely for eighteen months, and I believe I have gained a great deal in the condition of my patient within the next forty-eight hours after operation in every case that I have used it since I undertook this method.

Dr. Russell Fowler: Undoubtedly saline infusion is indicated in every case of laparotomy. It is not only indicated for the kidney condition, but it is also indicated for the reason that it makes the patient feel very much more comfortable. A quart of hot saline injected into the rectum at the end of the anesthetic, and repeated once every four hours after the anesthetic will make a patient feel very much more comfortable the next day. The time has gone by when we could think of keeping the peritoneal cavity dry, even in pus cases.

## AN INTERESTING CASE OF HEART DISEASE.

BY CARROLL CHASE, M.D.,

Brooklyn.

The Report of a Case in the Medical Wards of the Long Island College Hospital, awarded the Dudley Medal, 1899.

In writing the report of this rather unique case I have tried to make the picture as far as possible a clinical one, and at the same time to seek out the cause, and the probable sequence of events that have occurred in the vital organ concerned.

The history is as follows:—George K., aged forty years, an only child, born in Staten Island, New York. A schoolboy until fourteen, and then an errand-boy for two years. He then entered an engraver's establishment as office-boy and worked up to the position of engraver, never doing much muscular work, nor having long hours. He knows nothing of any relatives, his father and mother both dying before he can remember, so no family history can be obtained. He married while young, but his wife died in a few years, having had no children. His childhood was healthy, with one exception, that being a severe fever (malarial?) at eight years, lasting about two weeks, during which time he "turned yellow all over." He had gonorrhea two or three times during early manhood. About fifteen years ago was sick with rheumatic fever, and has had slight attacks since. "Never had syphilis," but admits having had recurring rashes that did not cause itching, much sore throat, pains in the bones especially at night, etc. With the exception of occasional attacks of acute bronchitis, he has had no other illness until the present one. He has always used beer and whiskey, both rather freely. He chewed and smoked, and was especially fond of cigarettes. Has used tea and coffee moderately. He makes the statement that he has always been of a "nervous temperament."

During the last few years he has taken note of the following symptoms:—Occasional attacks of palpitation and vertigo. Heart "buzzes" a good deal. *Slight* shortness of breath and paleness, both gradually increasing. Occasional flushing of the face without cause. Difficulty of getting to sleep after going to bed. Memory much more unreliable than formerly. Indigestion, there

being a feeling of fulness with slight nausea after meals, but seldom vomiting. Some diarrhea. Never had had tinnitus aurium, headache, pain down the arm or in the precordium, nor had his attention been called very especially to his chest, until within the last year. Had no trouble with his urine as far as known.

His present sickness began last Christmas with a mild attack of what he thinks was grippe, but which did not oblige him to stop work. The first of January he had another attack, this time severe enough to confine him to his bed. He recovered from the attack itself quite readily, but did not seem to regain his usual strength; slight exertion caused much shortness of breath, his heart thumped a good deal, he had much trouble sleeping, became anxious, and finally on the twenty-sixth of January entered the hospital, and went to bed.

When I saw him the first time (on the fifteenth of March) it was noticeable that he was nervous and irritable, and that his mental processes were somewhat slow, it taking him some time to think of the answer to a simple question. He complained of the following symptoms:—palpitation, no actual pain, but much discomfort in the chest. Very decided weakness, sleeplessness, sleeping only in naps, no better at night than during the day, dreaming a great deal, the dreams generally being unpleasant, and often having nightmare. Spots before the eyes sometimes. Had hard work to breathe even while lying perfectly quiet. Sighed very frequently. Some cough with rather thin expectoration. Some indigestion and slight diarrhea. Restlessness and nervousness. Feet swollen a little. Had lost little, if any, in weight. No tinnitus aurium, headache, nor trouble with his water.

Urine examination showed nothing whatever abnormal, except that the quantity was a little decreased, being about thirty-six ounces in the twenty-four hours. Urea nine grains to the ounce, making a total of three hundred and twenty-four grains. The amount of water and urea was but very little diminished, considering his almost absolute rest.

#### PHYSICAL SIGNS.

*Inspection.*—The man is well-built and muscular, looking somewhat older than forty, and having a rather anxious countenance. He has a peculiar pallor, not waxy, but very bloodless,

and having a little yellowish tinge. Mucous membrane pale. Finger-nails bloodless, otherwise normal. Slight arcus senilis. When talking he stops after every three or four words to catch his breath. Conversation tires him greatly. His position in bed is on one side, legs and thighs partly flexed, head flexed, with the body turned so that the chest is toward the bed, the attitude reminding one of Sims's position. He says this is the most comfortable. Occasionally has a feeling as if "something were going to break in the chest, and something terrible happen." During these attacks he looks rather horrified, grasps at his precordium, writhes in bed, and gasps for breath, but says he has no feeling of pain. Some edema is evident in the ankles and feet, and he is a little puffy under the eyes. There are some evidences of venous stasis—hands little cyanotic and edges of lips blue. Precordium bulged enough to make the left side of the chest visibly larger than the right, although he is right-handed.

The cardiac impulse or apex beat is visible in the eighth and ninth intercostal spaces, about in the axillary line. It is diffused, variable in force, and very irregular. The whole precordium moves and trembles with each *strong* cardiac contraction. A marked epigastric impulse. Episternal notch is filled with each systole of the heart. Very marked impulse in the neck over the carotids, and the impulse can be seen in the temporals and along the subclavians and axillaries.

Dyspnea is marked, especially on the slightest exertion. The respirations average twenty-five to thirty per minute. The nostrils dilate with each inspiration, and he often sighs.

*Palpation.*—The skin is cool and somewhat moist. The apex beat is better marked in the eighth than the ninth intercostal space, although felt in both. The force is exceedingly variable. Palpation confirms inspection as to the location of the other impulses. A marked thrill is felt over the base of the heart, systolic in time, and a corresponding one as regards time, but much weaker, is noted over the apex, and lower part of the heart. This latter is often absent. The arteries are moderately atheromatous. The radial pulse is weak, rapid but not quick, and having little character. Arterial tension not high, and the amount of blood in the arteries small. The pulse is irregular, but not as markedly so as the heart's action itself. On three different days I counted the cardiac contractions at the apex with a stethoscope for one minute, and had another person count the pulse at the wrist during the same minute. The first time I counted 106 at the

heart, and it was but 96 at the wrist. The second time was just after he had turned over in bed, the figures being 116 and 99. The last time gave 96 and 90. The veins feel rather full and are somewhat knotted in places. Can get pitting in the lower part of the legs and in the feet. Possibly a little fluid in the abdominal cavity. Liver is two and one-half to three inches below the border of the ribs, and the spleen is slightly enlarged.

*Mensuration.*—One inch below the nipple line the circumference of the chest is thirty-seven and one-quarter inches; the

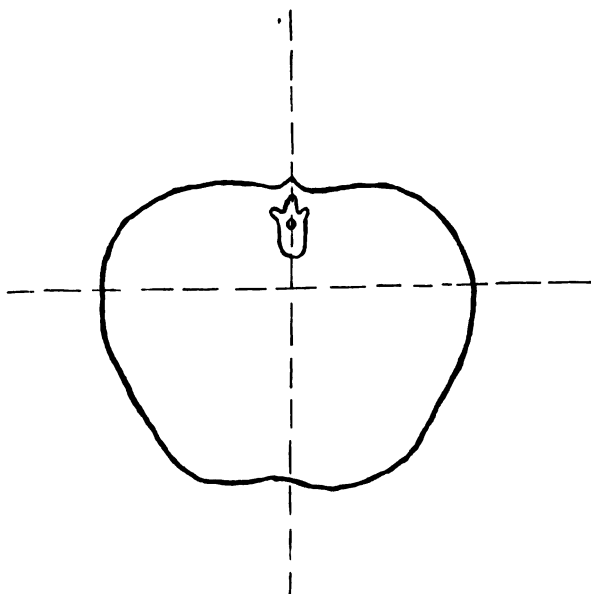


FIGURE I.

Showing the outline made by lead tape as applied to the chest one inch below the nipple line.

right side being eighteen and one-quarter inches and the left side nineteen inches. The bulging of the precordium is shown very nicely by the outline made by the lead-tape. (See figure 1).

*Percussion.*—The superficial and deep cardiac dullness is shown better by figure 2 than I could describe it. This shows the "cor bovinum" of the older pathologists. The lower part of the right, and possibly the corresponding part of the left lung is slightly dull. The percussion of the liver, also shown in figure 2, corresponds to the palpation.

*Auscultation.*—Listening over the aortic area reveals a double murmur. The sounds have but little, if any, resemblance to normal heart sounds. There occurs with the systole a loud, harsh murmur, immediately followed by a lower-pitched, rushing, and also somewhat harsh murmur; both of them varying in intensity, being marked during a strong contraction, and difficult to be sure of during a weak one. The pulmonary sound is weak and impure, but I can distinguish no murmur. Over the apex there is a mur-

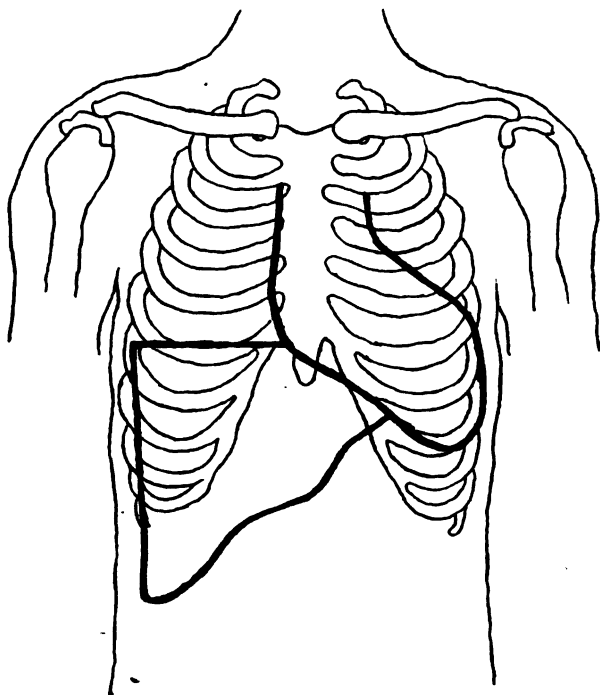


FIGURE II.

Showing cardiac and hepatic dullness.

mur heard part of the time only, and occurring just previous to the systole of the heart—so is presystolic. With the systole a blowing, “whushing” murmur is distinctly heard, audible with every contraction. There is also a tricuspid regurgitant murmur, which is soft and very low-pitched.

It is hard to describe the impression received as to the strength of the heart, except to say that it is far weaker than it should be for a heart of that size. It is trying to make up for the weakness





one drug that would do the most good. The heart surely needed rest, and by lengthening the diastole, digitalis certainly would do this. It as surely needed energizing, and there is probably nothing that could have done this as well as digitalis. Of course something was needed to overcome the increased arterial tension, that would add so greatly to the heart's work. Spiritus glonoini 1 min. every four hours would do this, but potassii iodidum would probably do better. This could be given with the digitalis, and would also help by combating any syphilitic taint still remaining.

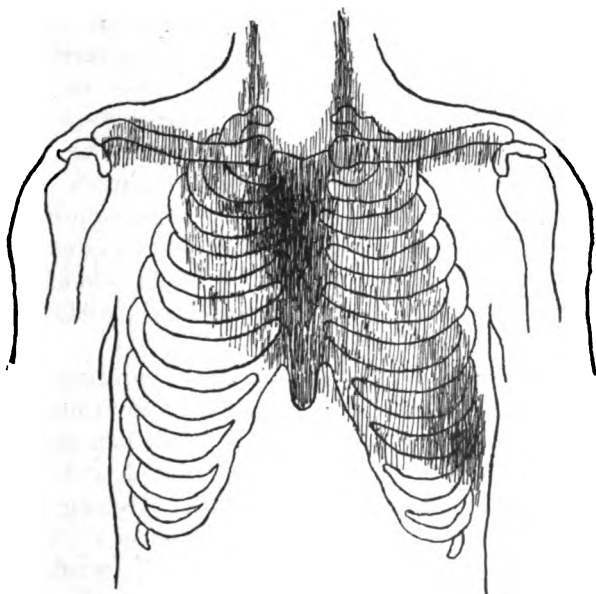


FIGURE III.

Showing the relative intensity and propagation of the two obstructive murmurs.

The following prescription might do, watching the effect on the heart closely, and stopping it at once if it caused any further embarrassment:

℞ Potassii iodidi ʒ ij.

Infus. digitalis fl. ʒ vi.

M. Sig. ʒ iv. t. i. d. ½ hour before meals.

If this interfered with nutrition by irritating the stomach, I would not have hesitated to use instead, digitalin gr. 1/60 hypodermatically once or twice a day as needed. If at any time an

immediately-acting heart stimulant was needed, *caffaina* gr. 3-5 hypodermatically, with benzoate of soda, would have answered the indication. *Strychnia* might have done exceedingly well, acting on the respiratory centers as well as on the heart. Combinations of the various cardiac stimulants might have acted better than any single one. At the same time that these helped the heart they would have tended to relieve the other symptoms, such as the dyspnea, indigestion, and sleeplessness, better than would have any symptomatic line of treatment. In fact, it would, in my mind at least, have been a mild form of malpractice to treat such insomnia with bromides, trional, sulphonal, or any other drug, that acts wholly or in part by lessening cerebral circulation, when cerebral anemia was the very cause of the trouble. *Morphia* gr.  $\frac{1}{8}$  at bedtime might have helped him sleep. Forced feeding just to the limit of the digestive capabilities, and not one whit beyond, would have done much toward nourishing the heart, by giving it good blood. Keeping the bowels open with mild laxatives, and the kidneys active with the best of all diuretics—pure water (although the heart stimulants would undoubtedly have helped here), would have done much to keep the blood pure and so better able to nourish the heart.

As for the second indication, that of reducing the heart's work to the minimum, rest, both physical and mental, as nearly absolute as possible, would have done more than anything else. Having him in bed, with extremities elevated, and having him as far as possible pleasantly surrounded. Keeping the arterial paths open by maintaining low arterial tension. I would, of course, stop the use of tobacco, and he probably would have been better off without alcohol. Give plenty of fresh air to aerate the blood well. If the right heart became overfilled, prompt venesection would have been indicated. If he had become dropsical elaterinum would probably have answered as well as anything.

I am inclined to think his endocardial disease began when he had rheumatism and syphilis, about fifteen years ago, and that it is quite possible his endocardium was put in a receptive state before this by his repeated attacks of gonorrhea. I think the following is at least a possible explanation of how the heart arrived at its present condition. The trouble started as an aortic stenosis, not well marked, with some slight regurgitation at the mitral valve. The aortic valve gradually became incompetent, and as the left ventricle increased in size by dilatation and hypertrophy, the mitral regurgitation became more marked, the valves becom-

ing more shrunken and perhaps adherent, finally causing some obstruction to the flow of blood from the left auricle into the ventricle, thus giving the rather faint stenotic murmur. Naturally the slowly increasing amount of blood on the venous side of the circulation following these changes, would finally cause the tricuspid valve to become incompetent, and also to embarrass the pulmonary valve, even if it did not actually cause a murmur. The broken compensation, which evidently occurred during the first part of January, was, I believe, caused by the two attacks

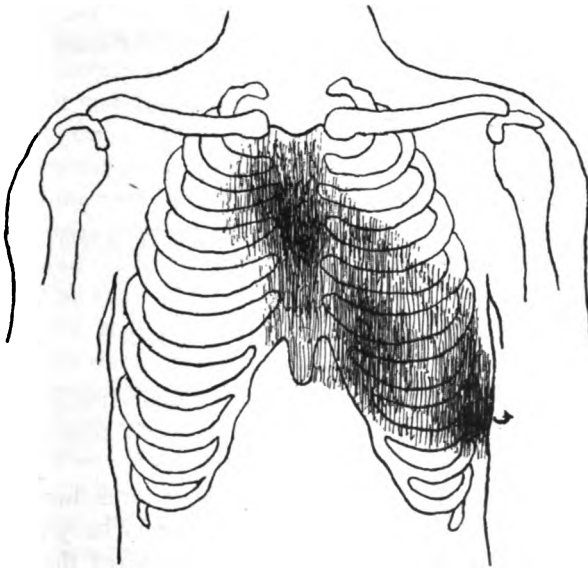


FIGURE IV.

Showing the relative intensity and the propagation of the three regurgitant murmurs.

of grippe, which the heart was unable to stand, having practically already reached the extreme limit of compensation. And I think that the cardiac poisons, nicotine and alcohol in excess (especially in the form of beer) did their share toward hastening the final breakdown.

I consider the following a few of the most interesting and instructive points brought out by this rare and yet somewhat typical case of organic heart disease.

1. The amount of cardiac disease a man can have and still suffer no actual pain.
  2. The enormous capability of a heart to dilate and hypertrophy to gain enough strength to do its required work.
  3. The existence in one heart of three regurgitant and two stenotic murmurs, there being at the same time no valve that is working quite satisfactorily.
  4. The relation between the heart's strength and the loudness of the murmurs, showing how very true it is that loud murmurs often are much more desirable than weak ones.
  5. That the indications for treatment of heart disease depend much more on the condition of the heart walls than on the existence of a murmur over one or more of the different valve areas.
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## TRAUMATISM OF THE CALVARIUM AND ITS CONTENTS.

BY GEORGE G. HOPKINS, M.D.

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No more attractive field of study presents itself to the surgeon of to-day, in the light of aseptic methods, than traumatism of the calvarium and its contents.

In the strides made in the surgical procedures during the past fifteen or twenty years, in no branch of surgery have the methods of treatment been more completely revolutionized than in operations connected with the human head.

We were taught that the most dangerous and hopeless of all cranial injuries were those of the base. And if a discharge of cerebrospinal fluid took place through the external auditory meatus the case was almost necessarily fatal. But in the case of more than twenty fractures of the base that have come under our care in the past few years we have come to regard this symptom as not by any means the most serious.

In the case of a policeman, who was brought to the hospital two years since, with fracture of the base and discharge of cerebrospinal fluid from the ear, there were no other alarming symptoms and he is a well man to-day and in active service.

The question of trepanning where there has been fracture with-

out depression, or motor disturbances in the limbs, we believe to be settled in the affirmative, and the surgeon is not only justified in trepanning, but it is his duty to do so. Only three such cases have come under our care during the past four years, and in every one of these there was some benefit derived from operative interference.

In the case of Bolt's, published in the *New England Medical Journal*, our results were certainly remarkable.

In this case, we were entirely dependent upon prevailing methods for localization, as the blow on the parietal bone was a broad one, from the boom of a yacht, yet we found the clot under the first button raised.

In the other two cases we were guided by the depressed fracture, that had not been raised.

One of these cases was of twenty-years' standing, and developed epilepsy fifteen years after the injury.

When four years of age the patient had fallen from a window and sustained a depressed fracture of the superior portion of the occipital bone. The symptoms were slight and no attempt was made to raise the bone. At nineteen years of age he began to have epileptic seizures, which increased in frequency until his twenty-fourth year, when we trepanned him over the depressed area. On removing the button of bone, the membranes bulged and when these were incised about half an ounce of cystic fluid was evacuated. The cyst extended forward, downwards, and inwards an inch and a half.

The operation relieved the attacks of epilepsy very decidedly for several months, but now, after the lapse of three years, they are as frequent as ever.

The other case was a woman of thirty-five, an alcoholic, who was subject to slight epileptic seizures, but no history of the injury could be gotten from her. She did not know when the fracture had occurred. The depression was included in a three-quarter-inch button and a focus of cicatricial tissue was found under it. The symptoms were relieved for the few months the patient was under observation, but she has been lost sight of.

The subject of concussion is too large a one to enter upon here. Whether we adopt the theory of Kocher of microscopic bruising, or that of Duret of ecchymotic foci.

We will place on record to-night five very interesting cases of traumatism of the brain, two of gunshot wounds and three of compound fractures from blows upon the head.

Thomas Clair, aged twenty-three years; nativity, United States; 601 Gates avenue; plumber's helper; admitted to hospital January 20, 1897; made an effort to take his own life shortly before admission.

He had become such a slave to the cigarette habit that he neglected his work; and would spend all his earnings in tobacco, secreting himself in some out-of-the-way place, where he supposed himself free from observation.

The nicotine poison had evidently weakened him mentally and he was in a very debilitated physical condition.

His mother had tried persuasion and threat to induce him to relinquish his dangerous habit, but without avail.

The day of the shooting he spent the entire morning indulging in his nefarious habit. He was found secreted in the cellar of his home. His mother, as she had often done before, reproached him for his habit and threatened to have him placed under restraint so that he could not have an unlimited supply of cigarettes.

Shortly afterwards she heard a pistol-shot, and, hastening to him, found that he had placed a .32-caliber revolver to his forehead and fired, the skin being blackened by the powder of the discharge. The ball entered the middle of the vertical portion of the frontal bone, about an inch above the root of the nose, and passed directly backwards. The first shock was very slight and after a ride of ten blocks, when he arrived at the hospital, he walked in himself. Pulse was 77, temperature 99°, and during the six weeks that he was in St. John's Hospital there was no increment of temperature above this point. On examination the wound of entrance was free from blood or oozing of any kind. The patient was perfectly rational and said he had no pain. A porcelain-tipped probe was inserted gently into the wound, passed easily back horizontally until it impinged on the inner surface of the occipital bone, but no bullet could be detected. We then used a telephone-probe with no better results. We then fancied there was some undue swelling near the occipital protuberance, and he was taken to the operating-room and placed under ether anesthesia and an incision made over this tubercle, but no evidence of bone protrusion could be detected. We determined to keep the patient as quiet as possible and await developments.

The bullet-wound healed in a few days; the patient eating and sleeping well, no untoward event occurred, but we kept him perfectly quiet, fearing abscess, which we often get in brain injuries, without subsequent temperature, about the fourth week.

This period having passed, we determined to use fluoroscopy to try and locate the bullet, but without success. We also took skiagrams, but they gave no indication of the location of the bullet.

The man made an uninterrupted recovery, and was discharged March 1, 1897, six weeks after injury.

The case of Clair is, I believe, unique in the history of gunshot wounds.

That a bullet could have traversed the entire antero-posterior length of the cranial cavity, of necessity in its course passing through the cerebellum in its entire length, cause no hemorrhage, give rise to no loss of cerebrospinal fluid, affect the intellection in no way, cause no disturbance of vision, giving no moment of unconsciousness, causing no febrile reaction, in fact, there were no symptoms referable to the traumatism, yet this man is going about with this bullet in his head, and is not conscious of any inconvenience from it.

In the war of 1861 there were 73 perforating gunshot wounds of the head out of 4350, of these 14 recovered.

Not one of these 14 cases was able to perform any manual or mental labor, and are carried on the pension-roll as totally disabled.

In none of these cases did the ball remain in the brain.

Albert Walker, aged twenty-seven years, married; residence, 206 Mott street, N. Y.; printer.

Admitted to St. John's Hospital December 25, 1895.

At the time of admittance, he was entirely unconscious, and never regained consciousness.

There was a bullet wound in the right temporal region, from which there was a slight sanguineous discharge, and a free flow of cerebrospinal fluid.

It appears that he had been unable to procure employment, and he and his wife became despondent. They determined to end their earthly existence. With this object in view they went to Prospect Park on the 24th of December.

Here he shot his wife, putting two bullets into her body and supposing her to be dead, proceeded to take his own life. He placed the pistol against the right temple, just above the angle of the ear, and discharged it.

They were found by the police in the morning, and were both alive.

The woman recovered. Walker was brought in the ambu-



lance to St. John's Hospital, and we were sent for.

We found him insensible, breathing heavily, with a weak, slow pulse. There was a profuse discharge of cerebrospinal fluid from the wound, so free that it had saturated his clothing about the trunk completely. The flow of cerebral fluid continued so freely until the time of his death that it was impossible to keep anything about him dry.

A peculiar feature of this fluid was, that it contained pus globules on the second day, leading us to suspect cerebral abscess, which had been opened by the passage of the bullet. The post-mortem examination failed to reveal any indication of inflammatory action or pus collection in the brain.

On examination a probe passed readily and without resistance across through the brain substance and impinged on the petrous portion of the left temporal bone, which was extensively comminuted, but the ball was not detected.

The ball had been deflected downwards and passed through the base of the occipital bone into the thorax, and was lost in the abdominal cavity.

Walker died on the 27th, three days after the infliction of this formidable injury.

Autopsy, December 28, 1895.

*Record of Autopsy.*—There is a circular and open wound about 3 cm. in diameter just above the upper angle of the right ear, the bone is comminuted and opens up the cerebral cavity. The opening in the bone is just underneath and coincident with the soft parts. Right temporal muscle is infiltrated with blood. Soft parts infiltrated with serum near the occiput. Skull-bone normal, outside surface of dura is blood-stained. Subdural space, especially over the temporal and parietal areas, and best marked on the left side, contain foci of blood-clot. String-clots adhering about the great longitudinal fissure, the cortical veins are distended, the sulci are flattened, the cerebral pulp underneath and coincident with wound is torn and infiltrated with blood. Petrous portion of the left temporal bone is comminuted, bony opening extends downwards and forward and communicates with the space in the deep fascia of the neck and jaw. Stellate fracture involving the left angle of base of occiput. Anterior and middle fossæ are normal. On separating the cerebral hemispheres both the lateral ventricles are found to be distended with blood-clots, cerebral tissue is infiltrated with blood. Track of ball is through both hemispheres on a plane with the lateral ventricles, track

of bullet is traced in sternal fascia on the left side, and through diaphragm to abdominal cavity. Bullet not found.

To this case we have not found any that is comparable, in the extent of injury, where the patient has survived the effect of his injury even a few minutes.

There were but five cases reported in the "Medical and Surgical History" of the war in which a bullet passed through the head from one temporal region to the other that survived the injury.

*Compound Depressed Fracture of Skull.*—James W., aged thirty-five, Irish, single, stable-man.

Admitted to St. John's Hospital November 3, 1897.

He was found unconscious and apparently dying, in the stable where he had been employed, lying near a horse that he had been cleaning. There was a large scalp wound, from which the blood was flowing freely, his head resting in a pool of blood.

The physician, who had been hastily called, protested against his being moved to the ambulance, as he was sure the man could not survive the journey to the hospital.

On arriving at the hospital he was found to have lost a large quantity of blood, and was profoundly depressed from shock, almost pulseless.

*Examination.*—Scalp wound two inches in length, extending from the occipital protuberance upwards and forwards, just to the left of the median line. The wound was ragged and had the appearance of having been inflicted by some blunt force. We found the bone to be depressed over a space two inches long, by  $1\frac{1}{2}$  inches wide, the level of fractured bone at its center was  $\frac{3}{4}$  of an inch below its normal position, the lower edge of this depression was at the upper border of the external occipital protuberance. The man was an alcoholic. Taken to the operating-room at once. Head shaved and prepared for operation.

Pulse almost imperceptible, shock intense, respiration very feeble, condition desperate.

Operation under chloroform.

Wound enlarged both upwards and downwards to measure five inches in extent. Periosteum incised and elevated.

The fracture was depressed at its center  $\frac{3}{4}$  of an inch, and the bone was broken into numerous fragments, which over-rode one another in several directions. Fortunately for the man the two tables were separated by the force of the blow, thus enabling us to remove the fragments of the outer table with *comparative*

ease. The inner table was broken into three fragments, and involved this table to the extent of a surface  $2\frac{1}{2}$  by 2 inches. These fragments over-rode each other and lay directly over the superior longitudinal sinus, rendering their removal a matter of extreme difficulty owing to the danger of wounding this large sinus.

From the large hemorrhage that had occurred at the time of accident we were fearful lest this vessel might have been punctured by the horse's shoe. With great care and caution we succeeded in raising and removing these fragments of the inner table without injuring the sinus in the least. When the larger fragment, extending over and beyond the median line, was removed there was considerable flow of blood, which came from under the edge of the fracture and had to be controlled by pressure.

The superior sinus was depressed from its normal level full half an inch, and could be seen pulsating strongly the whole length of the wound, and made us shudder to think what might have been had we wounded it in removing the depressed bone.

With the removal of the bone the pulse came right up, though the brain substance remained depressed.

The wound was packed with iodoform gauze, on account of the free oozing from under the edges of the bone.

The scalp wound was drawn together with silkworm-gut sutures, which were tied in bow-knots over the packing.

When the operation was finished patient was still in critical condition.

Three quarts of normal saline solution were given by transfusion. Stimulation hypodermically with strychn. sulph. gr.  $\frac{1}{6}$ , spir. frumenti gtt. xxv every hour until condition improved, three doses. The patient rallied and made an uninterrupted recovery so far as head injury was concerned. Through carelessness of nurse he was very badly burned on both thighs by hot-water bottles, during the efforts of resuscitation. This required skin-grafting and kept him in the hospital for four months.

We were thus enabled to watch the condition of the depressed sinus, which was more than three months in returning to its normal level.

That this extensive area of depressed brain should continue for so long a time before returning to its normal position without giving rise to any symptoms is rather remarkable.

*Compound Depressed Fracture of Skull.*—Leonora Batherby,

aged five years, United States.

Admitted to St. John's Hospital May 4, 1894.

While on her way to school she crossed a field in which some horses were feeding; as she was passing a broncho pony, he reared up his heels and kicked her in the head, causing a depressed compound fracture on right side of head, wounding the cerebrum itself.

Shock was extreme, condition so desperate that Dr. Fairbairn, who was present at the operation, remarked: "Its too bad, Doctor, that the horse did not finish her, instead of compelling you to do it."

Chloroform was administered. We found a small scalp-wound, from which cerebral substances were oozing. There was an extensive depression found to exist over the right parietal and temporal bones.

The head had been shaved and carefully prepared for operation. A triangle was laid out with a base 2 inches and sides  $2\frac{1}{2}$  inches each, the two sides were incised, and the triangular flap of scalp-tissue raised and turned back. The periosteum was carefully separated, after being incised over a similar area, and turned back also.

We now found that the skull was fractured over a space of two inches in diameter, and broken into three nearly equal and one smaller fragments. The fragments were so firmly wedged into one another that it seemed almost impossible to move them without doing damage to the brain substances. We therefore decided to remove a  $\frac{3}{8}$  button of bone about the center of the posterior line of fracture, at the junction of the smaller and one of the larger fragments of bone, as this seemed the best place from which to attempt elevation. The button was removed without damage to the underlying parts, and this is not always easy in so young a patient. The younger the patient the more delicate are the brain membranes.

Another difficulty now presented itself. The anterior superior fragment of inner table was a quarter of an inch broader on its anterior and superior edge, which left the outer table along the corresponding edge of the sound bone overlapping about a quarter of an inch over a space of  $2\frac{1}{2}$  inches in extent. This overlapping bone we carefully cut away and were then able to restore all the fragments to their normal level.

The actual loss of brain-protecting bone was about  $\frac{3}{4}$  of an inch in diameter.

Owing to the rent in the cerebral membranes and the loss of brain substance through it, we feared to close the wound, as there seemed to be an excellent chance for cerebral fungus.

The periosteum was drawn over the opening, a silkworm-gut drain being introduced under this flap and coming out on either side of the external flap. The external flap was sutured and a piece of sterile gauze introduced under it nearly at right angles to the silkworm gut.

Sterile gauze dressing applied and the head-spike bandage over all.

The patient was put to bed and stimulating enema was administered.

The patient rallied promptly after the operation and there was absolutely no increment of temperature.

May 5th, day after operation, pulse and temperature normal. May 9th, wound dressed. Found to be perfectly clean and free from suppuration. Drains of both silkworm gut and gauze removed.

Dressing of iodoform gauze applied.

May 11, wound redressed and found to have healed in its entire extent.

Patient progressed perfectly and was discharged.

*Compound Depressed Fracture of Skull.*—Arthur Held, aged 15 years.

Admitted to St. John's, March 26, 1895, 5 P.M.

He was injured by fall of a derrick, which crushed in and comminuted the whole vault of the skull, one of the most extensive fractures of the head that has come under my observation. Scalp badly torn and bone comminuted.

The injuries were so extensive that it is a marvel that death was not instantaneous.

Patient was taken to operating-room at 7 P. M., anesthetized with ether.

The scalp was shaved and prepared for operation.

The bone was found fractured from near occipital protuberance to the root of the nose, and at the summit of the skull probably four inches in width. Hemorrhage was free. The bone over a space seven by four inches was comminuted and depressed.

The brain-substance was protruding from the wound. The scalp wounds were freely enlarged to give ample access to depressed fragments. These were raised and left in position as

far as possible. One fragment was driven into the superior longitudinal sinus, and gave rise to considerable hemorrhage on its removal. Had this been the only blood-vessel injured we believe the patient would have survived, notwithstanding the extensive injury to the bony vault. Other fragments were driven into the brain in a number of places, lacerating this organ badly and causing hemorrhage, which it was impossible to entirely control. All loose fragments of bone having been removed, the wound was packed. The man rallied from shock. He was removed to the ward and given sustaining enema and heart stimulants hypodermically.

The patient lived five hours after returning to the ward. He died of hemorrhage at 11 P.M. This hemorrhage was not entirely from the longitudinal sinus, but oozing from the numerous vessels injured, in the many infractions of the brain substance, by bony spicula.

If the record of these cases will in any way influence the profession, so that they will never allow any case, however apparently desperate, to pass out of existence without using some operative measures with the hope of relief our object in presenting this paper will be accomplished.

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## REMARKS ON MODERN FOOT-CLOTHING.

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BY BURR BURTON MOSHER, M.D.

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Read before the Medical Society of the County of Kings at its June meeting, 1899.

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About five years ago, while waiting in a large shoestore, I noticed a clerk, fitting, by means of considerable force, a shoe on a young woman's foot. After finishing his task, he stepped back and said, "There, how does that feel?" The customer replied, in all seriousness, "That is not the question, how does it look?"

I thought over this remark many times, and each time was

more strongly convinced that something ought to be done to bring before the public a comfortable, and at the same time a good-looking shoe. That it *shall* be a *good-looking shoe is important*, for we fail in most dress-reform because of its unattractiveness.

I believe by an estimate that 90 per cent. of people have some defect in their feet, usually the result of that morbid desire for small feet, which seems largely a matter of tradition affecting all classes of society. The mother so thoroughly instills this principle into the child's mind that it becomes a part of his existence, and with utter disregard of the natural functions of the feet, the use of the unnatural clothing continues, and at maturity, should his occupation require the upright position, the maltreatment of the foot is often manifested in the various deformities which then materially compromise him in his work.

Early in my consideration of this subject, some five years ago, I found that there exist in the normal foot certain lines that we can follow in building footwear. (Figure No. 1.)

I learned from the last-maker that the next year's style was to be the so-called English bull-dog toe (modified), with the straight inside, a big curve or sweep on the outside, and a well-formed arch. These lines seemed decidedly more sensible and nearer correct than anything I had before found in the shoe trade. My confidence in these shoes, partly the result of work done on the foot by Mr. Ellis of London, lead me to drop the subject, hoping that time and attention from others more capable would so improve this last, on these same lines, as to make it the redeemer of the foot. It *has* been a most popular shoe, because it *has* given much *comfort*, and at the same time good *style* and *looks*.

After a big dinner, about a month ago, when I was at peace with all men and particularly desirous of accommodating every one, myself included, your worthy President did me the honor to ask for a short paper on some orthopedic subject. His gentle, persuasive manner so completely captivated me, that I would have promised him a long paper on any subject. But, alas, the next morning the delusion had faded, and I found myself face to face with the cold fact that I had promised a paper on an extremely threadbare subject.

I waited for an inspiration, which came while I was being held up by the anniversary parade. These children, wearing their bright-colored, too small, and, may be, last year's shoes, presented a most pitiful sight as they limped past in apparent agony.

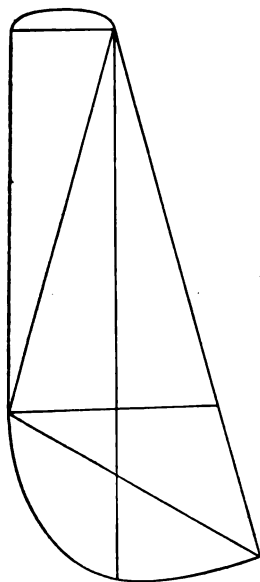


FIG. I. SOME LINES FROM AN OLD INDIAN MOCCASIN.



FIG. II.

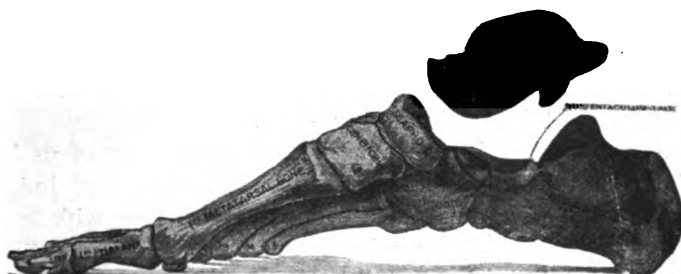


FIG. III. SHOWING THE ARCH AND THE KEYSTONE (OPEN).—ELLIS.

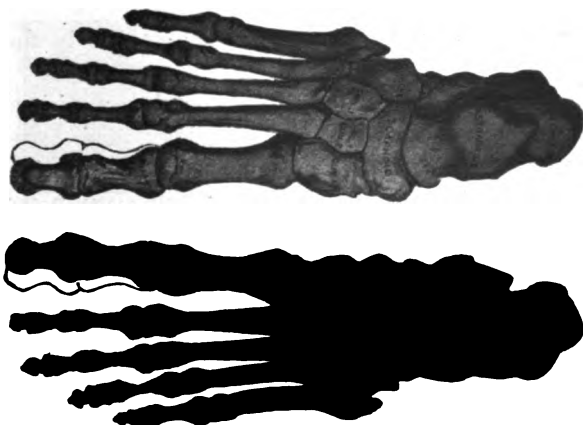


FIG. IV. SHOWS THE STRAIGHT INSIDE SOLELINE AND TRIANGULAR SHAPE OF THE FEET, ALSO THE POSITION OF BIG TOE IF RAISED (ABDUCTED).—ELLIS.



Knowing first, that each year the lines of shoes were changed, and not usually toward comfort; second, that children's shoes are especially responsible for much foot-misery in after life; third, that the foot, once deformed by improper footwear, cannot be easily corrected; fourth, that prevention is always better than cure; and, fifth, believing that little or nothing has been written on the subject of foot-clothing for children, it occurred to me that a few remarks on this subject might be of interest to this Society. It is not my aim to offer any new theories nor to try to explode any old ones, but to submit a few observations on this subject as they have presented themselves in my everyday work.

The importance of proper clothing for the adult foot has been given more or less attention, but very little thought is given to the foot before its maturity, when it makes its real growth, and when most of the damage is done which results in so much misery in after-life, such as corns, bunions, flat-feet, hammer-toe, ingrowing toe-nails, etc.

The child is usually shod for show and not for comfort. To say because the child does not complain that the shoe must be correct, is as unreasonable as to say that if a child takes a certain food and does not writhe in agony the food agrees with him, even though the child does not gain in weight.

I suspect it would be no idle dream to say many of us have vivid recollections of ill-fitting shoes in childhood, and judging from the results we must have begun the suffering with beginning childhood. Many a mother is annoyed by the baby "kicking his (cute) little shoes off," but the child in so doing many times shows more judgment than the mother does in making him wear the ill-fitting, uncomfortable things.

We have an example of martyrdom to constant pain in the Chinese. Fig. 10.

The feet, the supports of the body, are complex machines presenting many questions in anatomy, physiology, and myodynamics for elaborate, scientific consideration. Much has already been written on the subject of the feet, but enough yet remains to entice many careful students to the study of its almost mysterious combination, of strength, compactness, mobility, and function. But to dip into these interesting questions would be to stray beyond the modest title of this paper, yet I must invite your attention to pictures numbered 2, 3, 4, which show



FIG. V. A VERY GOOD SHAPE FOR BOY OR MAN WHOSE FOOT IS NOT DISTORTED.

FIG. VI. A GOOD SHAPE FOR BOY OR MAN WHOSE FOOT HAS BEEN SLIGHTLY DISTORTED.



FIG. VII. A CHILD'S SHOE BUT DOES NOT SHOW WELL HERE ITS STRAIGHT INSIDE LINE OWING TO THE FAULTY PHOTOGRAPHY.



FIG. VIII. A GOOD TOE SHAPE.



FIG. IX. A GOOD SHAPE FOR GIRLS.

PHOTOGRAPHS OF SOME PRACTICAL SHAPES, WORN BY MY PATIENTS.

very well some interesting points in the anatomy of the human foot as discussed in this paper.

The popular idea that in standing the foot should point out is incorrect, and only tends to weaken the arch by throwing the body weight nearer the inner edge. In walking, the inside line of the foot should move forward in nearly a straight line.

I do not believe (the old theory) placing the ball of the foot on the ground first, in walking, is practical, and certainly is not graceful as long as we wear heels on our shoes. I have a fancy that this is equally true of the naked foot, as will be noticed by watching children barefooted. In walking, the heel should be considered only as one end of an arch, which, though posterior, precedes the other end in taking its position to receive the weight of the body.

The first principle in foot-clothing is that the shoe should fit the foot, and not that the foot should fit the shoe. The cardinal point in building shoes is the straight inside foot-line (Figure 1), which deviates only when deformities are present except when the big toe is raised it is naturally abducted a little, and it is in these various abnormal conditions that the judgment of the physician backed up by the honest shoemaker and honest last-maker will be of so much value in deciding the practical, proper-shaped shoe to be worn.

The sole of the shoe should always be wider than the corresponding part of the foot, and the tracing of the foot should always be made with the weight of the body on the foot. The shoes must be right and left, even in infancy, and should be laced. The material should be of soft, pliable leather for the upper, and hard, firm leather for the sole, and especially the shank, and it is of the greatest importance that the lining should be smooth, free from wrinkles, and have few seams. The heel, if any, should be broad and low. I see no objection to such a heel, but we should not be in too great a hurry to discard the spring-heel.

The wide, so-called common-sense shoes have, perhaps, been comfortable, but they do not follow the lines of the foot, are unsightly, and, while giving plenty of room to the foot, beyond the toes on the outer side, there is a great deal of unnecessary space, which is often stuffed with cotton, to keep it from wrinkling. Yet the inside line is usually too short and not straight enough. It is impossible to procure from the ready-made shoe-dealer a correct shoe, and next to impossible to find

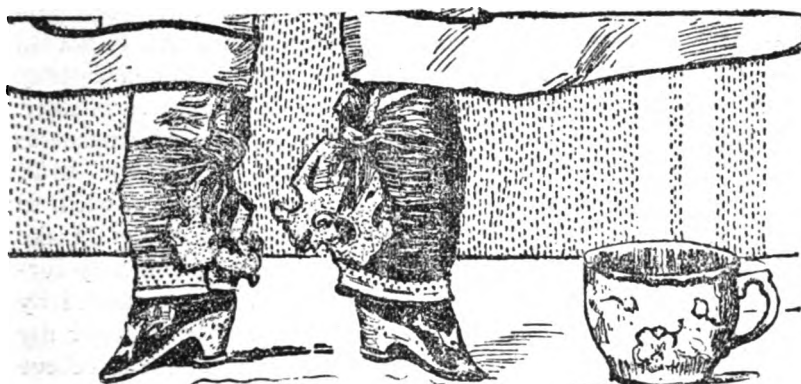


FIG. X. SHOWING THE DISTORTED CHINESE GIRLS' FEET COMPARED WITH AN ORDINARY TEACUP.



FIG. XI. SAME AS FIG. XII.



FIG. XII. THE STYLISH (?) SHAPE.

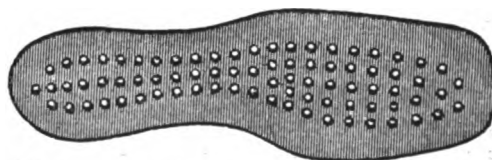


FIG. XIII. A SO-CALLED COMMON-SENSE SHAPE.

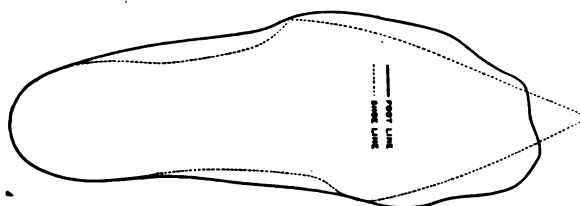


FIG. XIV. COMPARATIVE TRACINGS OF SHOE WITH FOOT IN IT AND OF FOOT OUT OF SHOE.

PHOTOGRAPHS OF SOME FOOT DISTORTERS.

a man who will make to order a shoe that will correspond perfectly with a physician's idea. The root of the evil is not so much with the shoemaker as with the last-maker, and as they supply the factory shoemaker, as well as the custom shoemaker, the only way in which the custom shoemaker can make a shoe to fit the individual foot, *better* than the ready-made shoe is by leathering or building up these same lasts. What is needed to remedy this state of affairs is custom last-makers, who will make a last after a plaster-of-Paris cast of the foot, intelligently correcting the imperfections. Personally, I am so discouraged by my failure to get proper shapes in shoes and stockings for my patients who need and desire comfort that I am forced to believe the footwear dealers either indifferent or ignorant, yet the vast strides made in the last three years *towards* correct shapes, leads me to feel that if the medical profession will take the interest it should, we shall *yet* have a shoe built on *strictly* anatomical lines. I have urged my patients to have their shoes built as nearly as possible on the lines shown in Figs. 5, 6, 7, 8, 9.

Proper foot-clothing contributes not only to comfort and graceful movements, but by allowing the amount of comfortable walking necessary is a great factor in keeping one in a healthy condition.

Stockings should be of good, firm material, soft and pliable, always rights and lefts, and better digitated for at least the great toe, if not all.

In closing let us bear in mind that the normal foot, viewed from below represents a rather imperfect triangle, with its base forward, and that the inside sole-line is practically straight; that is, a line touching the inner side of the heel, passing forward, should touch at the metatarsal phalangeal joint and the phalangeal joint of the great toe. I would like to urge that more attention be given to foot-clothing by the medical profession. It adds to the health, comfort, and well-being of patients. Let us also urge and insist that the manufacturer produce footwear hygienically and anatomically correct, attractive, neat, and artistic in appearance. Then we must educate our patients to the new ideals, and when once the heart of the public is won over to these artistic comforts the old foot-distorters will be left in the hands of tradition or be entirely forgotten. The foot, a complex, scientific organ, if cared for correctly, will do its work perfectly, but if thrown out of line, often becomes a source of constant pain, and much disability. There seems to exist in the mind of the pro-

fession as well as the laity, the idea that it is beneath the dignity of the doctor to attend to the treatment of his patient's feet when they become deformed or diseased by bad shoes, thus leaving them to the mercy of the chiropodist, with his highly unscientific treatment, and thereby subjecting them to the grave dangers of septic surgery.

I feel strongly that the best remedy for these pathological conditions lies in their prevention, by the use of proper footwear, and it is our duty as the medical advisers, especially of children, to have their feet under the same supervision as any other part of the body, and *insist* on the application of proper foot-clothing, just as emphatically as we would on proper postural positions and the use of glasses in eye deformities. But when a deformity really exists in the foot as the result of improper foot-clothing it needs our personal supervision as to the proper shoes and stockings worn, just as much as for the application of braces for other deformities and diseases. A physician who would send a patient, suffering from hip-joint disease, to the instrument-makers without directions or further supervision would be considered by us all as highly unscientific and at least indifferent, and it seems reasonable that a physician who leaves to the care of a shoemaker the deformed and diseased feet of his patients might be viewed in exactly the same light.

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#### SANATORIUM FOR TUBERCULAR PATIENTS.

The last Legislature of the State of New York authorized the establishment in cities of the first class of sanatoria for the treatment and care of tuberculosis. The site for such an institution was to be determined by the City Board of Health, subject to the approval of the State Board. At a recent meeting of the State Board of Health resolutions were adopted recommending the authorities of New York City to establish such a sanatorium, on the ground that active measures were needed for the proper isolation and treatment of the many suffering from tuberculosis in that city.

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#### A REMARKABLE RAINFALL.

The average rainfall in the vicinity of New York is not far from forty inches. In Chenapunji, Assam, it is 498.15 inches, the rainfall in one month having been 147.17 inches. This year in five months and a half 267.84 inches fell, and in one week 73.79 inches.

# THE BROOKLYN MEDICAL JOURNAL.

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## EDITORIAL.

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### PUBLIC MONEY FOR CHARITIES.

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Comptroller Coler of New York City is to be heartily thanked for his efforts to minimize the abuse by which private charities are supported out of the public treasury, and to be encouraged to continue in the course which he has inaugurated. Coming into direct antagonism with some of the most powerful organizations of our large cities he needs not only plenty of pluck and courage, both of which he seems to have in a large degree, but the hearty coöperation of all who agree with him and who have in their efforts hitherto been unsuccessful.

In his report to the Board of Estimate and Apportionment of New York he gives some figures which are truly alarming. While some cities contribute nothing to these charities—Boston, Cincinnati, Cleveland, Pittsburg, and Milwaukee, for example—others are called upon for enormous amounts: Philadelphia paying \$151,000; Baltimore, \$227,000; Washington, \$194,000, and New York, leading the list with no less than \$3,000,000! He makes the following recommendation: "The medical-charity system should be changed so that the work of the several dispensaries of the city be limited to certain districts, with the view of prevent-

ing an unnecessary duplication of work, and that the cases treated by dispensaries should be certified to the State Board of Charities, which board (by means of inspectors of its own appointment, but paid for by the dispensaries) would inspect such cases and certify such of them as are proper charges against the city to the Comptroller's office for payment. In the event of this plan being deemed impracticable—and thus far I have received no assurance from the State Board of Charities that it will be carried into effect—I suggest that the amounts allowed to dispensaries be limited to fifty per cent. of the amount received from private benevolence during the fiscal year last preceding the year in which the budget is made, the amount allowed in any one year, however, not to exceed by twenty-five per cent. the amount allowed in the preceding year, and in no case to exceed fifty per cent. of the amount actually disbursed for dispensary purposes. Fourteen hospitals in the Borough of Brooklyn have dispensary attachments for which public appropriations have heretofore been made, but the finances of these dispensaries not being kept separate, it is impossible to apply the foregoing rule. In these cases I would recommend, as a temporary measure for the ensuing year only, that one-half the amounts allowed by section 230 of the charter be granted for the year 1900."

If the course of procedure suggested by Mr. Coler is carried out, those institutions that are doing public charitable work need have no fear, while those that have been established and are maintained for private aggrandizement, whether it be in the form of reputation or position, will, as they should, go to the wall.

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## TYPHOID MORTALITY IN THE UNITED STATES.

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In an exceedingly interesting and instructive paper contributed to the *New York Medical Record*, F. S. Crum, Ph.D., of Newark, N. J., treats of the mortality from typhoid fever in twenty-four American cities, and gives five tables which contain most striking statistics. Table I. gives the deaths by years for the decade 1889-1898, by which it appears that New York, by which we presume he means the old city, had 3,533 deaths; Chicago, 8,450; Philadelphia, 5,186; and Brooklyn, 1,803. The totals for the twenty-four cities in the decade being 41,931. Table II. gives the rates



per 100,000 of the population of these cities. The rate in New York for the decade was 21; Chicago, 65; Philadelphia, 46; and Brooklyn but 19. The Denver rate was 77, and that of Pittsburgh 82, the highest of all; while that of Brooklyn was the lowest. In comparison with the typhoid mortality of the large cities of England and Europe, the rates of American cities are very high; thus, that of London for the same decade was 13 per 100,000, while it was but 7 in Berlin.

Table III. contains figures which are, to say the least, very encouraging to sanitarians. These show that there was a marked reduction in the mortality in the latter half as compared with that of the former half of the decade, the percentage of reduction ranging from 70.1 in Newark to 4.7 in Boston. New Orleans is the single exception; in that city there was an actual increase of 137.8 per cent. In Chicago the reduction amounted to 61.2 per cent. These reduced rates are in most instances directly attributable to improvements in the water-supplies; Newark and Chicago, which head the list, being notable examples.

In Table IV. the cities are arranged in the order of their typhoid mortality, Pittsburgh having the highest rate and Brooklyn the lowest. The order is as follows: 1, Pittsburg; 2, Denver, 3, Washington; 4, Louisville; 5, Chicago; 6, Jersey City; 7, Cleveland; 8, Minneapolis; 9, Cincinnati; 10, Philadelphia; 11, Baltimore; 12, Newark; 13, San Francisco; 14, St. Louis; 15, Buffalo; 16, Providence; 17, New Orleans; 18, Boston; 19, St. Paul; 20, Milwaukee; 21, Rochester; 22, New York; 23, Omaha; 24, Brooklyn.

Dr. Crum states that it is "of interest to note that had the Brooklyn average rate (18.6) for the decade prevailed in all of the cities under observation, the total typhoid mortality would have been 19,156, instead of the 41,931 deaths actually recorded. In other words, had the Brooklyn rate prevailed there would have been a saving in this brief period of 22,775 lives."

Table V. is one showing the estimated population, the deaths from typhoid, and the typhoid death-rate per 100,000 of the population of these cities in the aggregate for each year of the decade, for the two quinquennial periods, and for the entire decade. This shows that in the five years 1889-'93 the rate was 51.5, while for 1894-'98, it was but 31.6, a marked reduction, which can only be accounted for by taking into consideration the great advances made in sanitary science and its application. Sanitarians are too apt to be discouraged because the results of their labors do not

appear promptly, but it takes time to accomplish marked improvements in the public health, and it is such statistics as these of Dr. Crum which prove the value of sanitary methods in the reduction of mortality and sickness rates.

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PROCEEDINGS OF SOCIETIES.

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MEDICAL SOCIETY OF THE COUNTY OF KINGS.

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*712th Regular Meeting, held at Apollo Hall, Tuesday, September 19, 1899.*

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Vice-President Bartley in the Chair.

The minutes of the previous meeting were read, and after correction approved.

REPORT OF THE COUNCIL.

The Council reported favorably upon the following applicants and recommended that they be elected to membership:

Edward C. Bennett, P. & S., N. Y., 1886.  
 Furman N. Nichols, N. Y. Med. Coll., 1852.  
 John C. Hart, L. I. C. H., 1892.  
 Walter A. Sherwood, P. & S., N. Y., 1896.

ELECTION OF MEMBERS.

The following having been regularly proposed and favorably reported upon by Council, were declared by the President elected to membership:

David Louis Cedarholm, L. I. C. H., 1897.  
 Cornelius R. Love, L. I. C. H., 1897.  
 John A. Lee, Yale Univ., 1897.  
 James Forbes Munson, L. I. C. H., 1897.  
 Robert T. Briggs, L. I. C. H., 1898.  
 Geo. A. Wardenburg, P. & S., N. Y.  
 John J. Lyons, L. I. C. H., 1898.  
 John J. Colgan, L. I. C. H., 1882.  
 Richard S. Graves, Yale Univ., 1897.

Walter Howard Ross, Bell., 1898.

Edward L. Oatman, Bell., 1897.

Charles B. Bacon, Buffalo, 1897.

W. B. Snow, P. & S., N. Y., 1885.

The Chair announced that the President had appointed the following Committee to investigate Dr. Elfstrom's Method of Treatment of Pneumonia, *viz.*, Drs. Bartley, West, Fairbairn, Matson, and that some additional members would be added to such committee later.

The Chair announced, as a report from the Historical Committee, the following deaths of members of the Society during the summer:

James Little Kortright,  
Nathaniel Wilson Leighton,  
George William Neidecker,  
Teunis Schenck,  
William Henry Caemmerer,  
James Fitzgerald Feeley.

#### SCIENTIFIC BUSINESS.

"Tubercular Kidney. Notes on Post-operative Anuria." By John O. Polak.

Discussed by Geo. G. Hopkins, Geo. McNaughton, and Russell Fowler.

"Some Rare Cases of Cranial Injuries." By George G. Hopkins.

Discussed by Dr. Fairbairn.

"The Diagnostic Value of Pain as a Symptom." By Glentworth R. Butler.

Discussed by Dr. McCorkle.

There being no further business, on motion the Society adjourned.

R. J. MORRISON,  
*Associate Secretary.*

## THE BROOKLYN SURGICAL SOCIETY.

*Regular Meeting, May 4, 1899.*

A. T. Bristow, M.D., the President, in the Chair.

### VENTRAL HERNIA FOLLOWING OPERATION FOR APPENDICITIS.

Dr. Alexander Rae presented a patient who had been operated on for ventral hernia following operation for appendicitis. The case presented itself in Dr. Wight's service at the Long Island College Hospital in the late fall. The operation for appendicitis had been performed four years previously. The hernia which presented itself was an extensive one, occupying the inguinal region on the right side, and was six or seven inches in length. It practically was a protrusion of the ascending colon and parts of the ileum. The patient was admitted to the hospital, put in bed, and kept quiet two or three weeks to get her in as good condition as possible before operation. When the patient took the reclining position the hernia disappeared, but there was a mass not less than 7 inches long and 3 or 4 inches wide protruding at least  $2\frac{1}{2}$  to 3 inches from the abdominal wall. The operation was done on the 30th of November, 1898, by Professor Wight: From the upper end of the tumor, and its median line, an incision 3 inches in length was made. All adhesions separated, tied, and cut as necessary. From the upper end of this incision and extending on either side of it, two other incisions were made, including  $3\frac{1}{2}$  inches of thinned abdominal wall. Sutures were placed, and after further separation of adhesions, the incisions were extended downward 3 inches. The sutures already placed were tied, a similar set placed below them, and the maneuver repeated until the length of the hernial sac had been traversed. This method prevented any protrusion of intestines and obviated what would have been a troublesome feature of the operation. The patient made a good recovery. She was in the hospital for three months and went home in good condition. She resumed the use of her corsets, against which she was advised when she left the hospital. The present condition of the scar is satisfactory. If this second scar breaks down and there is any further protrusion, it is a question as to where material to make any repair is to come from.

Of course, she has worn an abdominal support continually since leaving the hospital; she has made a mistake in replacing her corsets, thus bringing to bear the increased weight of the abdominal contents by pressure over them, and that has helped to change the good condition of the scar that existed when she left the hospital.

#### DISCUSSION.

Dr. F. W. Wunderlich said that in such a case as this it is of importance to attend to the general condition; reduce the fat of the patient so there is not the fulness of the abdomen, as that will interfere always with a good result in making an operation for ventral hernia of that description.

Dr. Russell Fowler requested that Dr. Rae explain a little more fully the method of attacking the hernia.

Dr. Rae said there was not any special technique about it, except the method of handling the long incision in order to avoid the protrusion or escape of the intestine. Two parallel incisions were started an inch or an inch and a quarter on the median side of the line, starting for 3 inches, and then the adhesions of the bowel were separated and tied off, several sutures were placed and simply held in place while the incision was extended on either side another 3 or  $3\frac{1}{2}$  inches, and then the first set were tied. This gave complete control all the time of the contents of the abdomen so they were not in the way, and that was all there was to it; simply carrying on one step after another until the length of the incision was completed.

Dr. J. Bion Bogart endorsed what Dr. Wunderlich had said in regard to reducing the amount of intra-abdominal fat in such cases to diminish the tension upon the sutures. All are familiar with the difficulties of these cases; the mass of adhesions; the tendency that the muscles have to separate widely; the tension upon the sutures; and also all have had some experience in bad results after operating. His own feeling was that the tissues should be brought together in independent layers; that the peritoneum, the muscular layers, and the skin should each be sutured separately, and he preferred to use buried chromatinized catgut sutures for the deeper layers, and to pass the sutures as mattress sutures after the manner of Halstead in his hernia operation. With the mattress sutures passed fairly close together, and with large, broad surfaces approximated, you have a better chance for union. He thought the patient should be kept in the recumbent

position a longer time than after an ordinary abdominal operation and supported for at least a year afterwards with a well-fitting abdominal binder.

CHOLECYSTECTOMY FOR CHOLELITHIASIS AND CONTRACTION OF THE  
GALL-BLADDER.

Dr. George R. Fowler presented a patient, a brakeman on the elevated railroad, who had suffered a number of attacks which were supposed to have been ordinary biliary colic. So far as their severity was concerned, the location of the pain, and the ordinary symptoms which occur in connection with biliary colic, they seemed to be quite distinctive of that affection. The fact is to be noted, however, that there had never been at any time an attack of jaundice following the onset of the pain, and it was, therefore, considered to be not the typical colic characteristic of the passage of a stone along the common duct, but rather that there was an attempt on the part of a calculus to escape from the gall-bladder, followed by its occasional impaction in the cystic duct and giving rise to tenderness and to the symptoms from which he suffered. At no time had it escaped into the common duct. These attacks went on for several years, and finally became so severe that he was occasionally compelled to leave his train. He entered St. Mary's Hospital at one time for treatment for this condition, but inasmuch as the history of this attack which he gave at that time was somewhat indefinite, nothing was done for him. A few weeks ago he entered the Brooklyn Hospital, when it was resolved to keep him under observation for a time and determine if possible the character of the attack. In the course of the following week he suffered from one of his old-time attacks, and it was then found that the pain was referred to the region of the gall-bladder; that it was exceedingly severe, apparently, from his complaints, necessitating the administration of large doses of morphin to allay the pain, and that tenderness in the region of the gall-bladder persisted for several days after the attack passed off. There was no bile in the urine, either during or following the attack, nor was there any jaundice.

After this attack had subsided the abdomen was opened. An excessively contracted gall-bladder was found, with a soft calculus, scarcely as large as a small French pea, impacted in the cystic duct; the latter was found to be unusually long. The cavity of the gall-bladder itself was smaller than an ordinary lead-pencil

and its walls were greatly thickened; the entire gall-bladder externally was about the size of the thumb. The long cystic duct, or that portion of the gall-bladder itself which joined the common duct, was ligated; the gall-bladder was cut away with the thermo-cautery, the mucous membrane in the grasp of the ligature touched with the thermo-cautery, and the abdomen closed save for a point left for a wick-drain. The patient has made a good recovery. The case is interesting from the fact that there was evidently so slight a cause of irritation, the entire absence of symptoms of a calculus having passed along the common duct during or following the attacks; and finally, that a small and soft calculus and a contracted gall-bladder should alone be found to account for the disproportionately severe symptoms.

INTESTINAL OBSTRUCTION CAUSED BY INFLAMED APPENDIX VERMIFORMIS.

Dr. Fowler showed a patient, a young man of seventeen, who had been brought into the hospital with the following history: Two weeks previous to admission he had had an attack of colicky, abdominal pain, general in character, and which was relieved in the course of the day, when his bowels were moved. Three days before his admission he was again attacked in a similar way, no localizing symptoms being present. At the time of the second attack he was playing baseball, and probably subjecting himself to considerable exertion. Since the last attack his bowels had not been moved, nor had he passed any gas by the rectum up to the time of his admission into the hospital. He vomited repeatedly, but the vomiting had never been fecal. Upon examination he was found to have a distended abdomen, rather rapid pulse, but no elevation of temperature. A diagnosis of intestinal obstruction was made. No physician attended him in his first attack, and it was difficult to trace any connection, unless one had in mind the possibility of appendicitis having occurred, the obstruction being due to an adherent appendix; otherwise there was nothing to suggest any relation between the two attacks. The abdomen was opened by a right lateral section, under the belief that the intestinal obstruction would be found referable to the appendix vermiformis, and such was found to be the case. The appendix had lapped over a portion of the ileum about eight inches from the ileo-cecal valve, and the tip of the organ was found low down in the pelvis; a rather long appendix and an

exceptionally long and lax meso-colon evidently favored this, and what is comparatively seldom found—a distinct meso-cecum was present. The tip of the appendix was removed, the obstruction at once relieved, and a typical appendicectomy done. Upon examining the specimen it was found that, at about one-third of the distance from its distal extremity, the appendix had been almost amputated by the pressure that had been brought to bear against its wall by the edge of the mesentery. These adhesions had, in all probability, formed two weeks previously, and in connection with an attack lasting only a few hours, although one can scarcely imagine sufficiently dense adhesions to occur under the circumstances of so mild an attack as to have bound the appendix firmly down deep into the pelvis, and yet not to have been ruptured by an amount of pressure which, when the appendix itself was forced against the edge of the mesentery of the intestine which it encircled, should have been sufficient to have almost cut off that part of the organ. The boy made a good recovery. We do not always make a diagnosis of a preëxisting appendicitis upon so slight evidence as this. The operation was made on the assumption that that would be found to be the case, however. In accordance with his usual rule in exploratory abdominal section with particular reference to the region of the appendix, the operator made a vertical incision; it was necessary to prolong it well down in order to reach the appendix itself, which was so deeply placed in the pelvis.

**GUNSHOT WOUND OF THE LIVER AND OF THE COLON AT THE HEPATIC FLEXURE.—ILEOSIGMOID ANASTOMOSIS AND ELIMINATION OF LARGE INTESTINE ABOVE THE SIGMOID.**

Dr. George R. Fowler reported a case in which the patient, an Italian, was one of the participants in a shooting affray in Sixty-ninth street, New York, about three weeks ago. The other participant was a woman, who was shot in the back, and taken to Roosevelt Hospital, but the man escaped, walked across a vacant lot in the rear of the house, scaled a high board-fence, ascended the elevated-railroad station-stairs, came to the bridge, descended the stairs of the bridge station, and took a Third-avenue car to Union street, Brooklyn. When he reached there he sat down in a chair while his cousin sent for a nearby physician. This physician, upon arriving, examined the wound and found a point of entrance of a bullet just below the lower border of the last rib



upon the right side; the bullet was found lying under the skin over the back muscles. It was removed by an incision, an ambulance was called, and the patient was brought to the Brooklyn Hospital. The speaker mentioned these points to show how far the man traveled and what happened to him in the interval between the shooting and the time he saw him.

He was placed under an anesthetic, about five hours after the shooting took place, and the site of the wound in the anterior abdominal wall explored by enlarging the incision, and not by a probe or the finger. It was found to lead into the abdominal cavity. Upon opening the abdominal cavity a wound of the liver was at once apparent, and, upon sponging away the blood-clot the bullet was found to have torn the mesenteric attachment of the hepatic flexure of the colon, and to have passed thence into the post-peritoneal connective tissue, and thence out through the muscles. There was no bloody urine, and hence there was evidently no injury to the kidney on this side. From experience in this class of cases, where the large intestine is wounded close to the mesentery, and particularly with a large-caliber ball—this being .44—it was deemed best not to attempt at this time the suturing of the injury to the intestine itself. The peculiarity of the distribution of the blood-vessels at this point is such that one can never tell in this class of injuries just how extensive the necrotic process in the wall of the gut may become. In suturing under these circumstances in previous cases the speaker had been almost invariably disappointed in having fecal fistulæ follow; and a fecal fistula in this region is exceedingly difficult to manage. It was therefore, resolved to do an anastomosis between the lower portion of the ileum and the sigmoid flexure at once, so as to provide for the passage of fecal matter directly into the sigmoid flexure. This was done; and further, in order to prevent fecal matter from passing from the ileum through the ileo-cecal valve and thence into the ascending colon, an in-and-out circular suture was passed around the ileum itself between the ileo-cecal valve and the point of anastomosis, which, upon being tightened, absolutely eliminated from the question the entire large intestine, from the ileo-cecal valve to the sigmoid flexure.

The patient went on well for several days, and promised to make a good recovery, but, unfortunately, about the fifth day he developed pneumonia, with rapid edema of the lungs, from which he died. The parts involved in the injury and the operation were removed at the autopsy, and shown.

The point of anastomosis between the sigmoid and the ileum<sup>1</sup> and the point of circular suturing of the ileum itself were readily demonstrable. The object of resorting to this device was, in the first place, to prevent fecal extravasation at this point; and second to save time. The operation was done in about one-half the time it would have taken to have resected the hepatic flexure, which, with the amount of injury done in this case, would have been the only other resort.

#### DISCUSSION.

Dr. H. B. Delatour asked if there was any bile in the abdominal cavity; if a post-mortem examination was made; and if there was any fecal discharge.

Dr. Fowler said that there was no bile to be seen; that a post-mortem examination was not made; and that at the time of the injury the colon was empty and there was no fecal matter seen at any time. Dr. Fowler observed that the method of laying the sutures for the anastomosis was that of Barker. An incision is made in the long axis of the gut opposite to the mesentery, extending through the serous and muscular coats, but not involving the mucous membrane. This incision is made in both the portions of intestine to be the seat of anastomosis. This permits the sutures to be laid and all made ready for tightening the same before the intestine is opened, thus maintaining a clean operating field as long as possible after the opening in the gut has been made.

#### HYSTERECTOMY FOR VESICO-UTERINE FISTULA.

Dr. George R. Fowler reported a case of hysterectomy for vesico-uterine fistula, the interesting point in connection with which is the fact that, under the impulse of the moment and without preparation, a rather unique procedure was adopted for the radical cure of a large vesico-uterine fistula. The patient was sent to the Brooklyn Hospital with a diagnosis of laceration of the cervix and perineum. She gave a history of having been "torn" in labor three years before, and more recently having suffered some bearing-down pain and pelvic tenesmus and disturbances of menstruation, and, in fact, the ordinary, every-day symptoms of pelvic disturbance, such as are due to old and extensive lacerations and the presence of considerable masses of cicatricial tissue in the original angles of the tear. Just as the patient was

put on the table after being anesthetized, the house-surgeon incidentally remarked that this patient also had incontinence of urine. Upon passing the finger up to the cervix the ordinary bilateral laceration was found to exist. Following cleansing and dilatation of the cervix, in passing the sound, the routine practice before introducing the curette for the purpose of the usual curetting preliminary to the operation for repair of the cervix, it was found to pass well forward and upward, as if it had passed into the peritoneal cavity. Remembering at once the story of incontinence of urine, the finger was passed through the dilated cervix and found its way at once and without difficulty into the bladder. This was mentioned to show that it was a rather large fistula, and was evidently one of the rare cases of vesico-uterine fistula following labor, the result of an extensive tear of the cervix into the vaginal wall and thence into the bladder. It was too large a fistulous opening to repair by the usual method of reproducing the original injury and paring the edges and sewing them together, and while a case of this kind had never come under the speaker's observation before he at once realized what difficulties there must be in attempting to bring about a radical cure under these circumstances by ordinary plastic procedure. Fortunately the patient had been prepared in such a manner that laparotomy was permissible. He at once opened the abdomen and removed the uterus, doing a typical hysterectomy, and sewed the opening in the bladder first with a layer of catgut sutures, not including the mucous membrane, and over this layer a carefully applied line of Lembert sutures. The patient was put to bed and ordered catheterized every four hours. She made an uninterrupted recovery. He presented this case as a unique, and, perhaps, not well-considered, but at all events a successful, method of dealing with large vesico-uterine fistulæ.

#### HYSTERECTOMY FOR CARCINOMA UTERI.

Dr. Fowler reported a case, the interest in which resided particularly in the fact that the woman suffered from rather extensive carcinoma of the uterus and of the vagina when only twenty-nine years of age. She had been married twelve years. She had had no children. A few months ago she first noticed some bleeding following coition, a common symptom in the commencement of carcinoma uteri. Abdominal hysterectomy was done. It was at first thought that the parts could be more readily reached by an

ordinary extirpation through the vagina, but the fingers introduced into the rectum seemed to detect the presence of some large glands in the direction of the iliac vessels, and therefore it was decided to open the abdomen and remove the uterus by the abdominal route, and get as much of the vagina as could be reached from that direction. He believed that he was able to get beyond the site of the disease by this method. The operation was done five days ago and the patient is making a good recovery, so far as the operative procedure itself is concerned.

VAGINAL HYSTERO-MYOMECTOMY FOR ENORMOUS SLOUGHING FIBROMYOMA OF THE UTERUS.

Dr. Geo. R. Fowler showed a unique specimen from a case which was brought in on the ambulance with the history of having been ill with fever for a week and of having had a number of attacks of difficulty of urination. Her friends had finally sent for the ambulance-surgeon to introduce a catheter and draw off her urine. The ambulance-surgeon, in endeavoring to carry out this desire, found a sloughing mass just within the vagina, and concluded to bring the woman to the hospital.

She is forty-two years of age, married, but had borne no children. The only symptom of which she complained was the fact that something was obstructing the flow of urine, and had been for some time past. An examination showed an abdominal tumor rising well above the umbilicus, traceable to the uterus. Examination by the vagina showed a large sloughing mass hanging down in the vagina, also traceable evidently to the uterus. The temperature was  $104^{\circ}$ , and pulse 140. She was profoundly septic, in spite of the fact that she had only been ill for a week. It was determined to rid her of the presenting and foul mass at all events, even though nothing further could be done. She was placed in the lithotomy position, and the presenting mass grasped with a heavy volcellum forceps. As it was dragged down it was apparent that the upper portion of the growth, which could be felt in the neighborhood of the umbilicus, was dragged down with it. The operator introduced his finger in the vagina and swept it around the mass, but was unable to determine the presence of the cervix at all, even when strong traction was made on the growth by the forceps; the hand, however, swept around in an enormously enlarged vagina. The hand pressed above the promontory of the sacrum, and still it was in the vagina; the tips of the fingers passed

so high that he could feel them through the abdominal wall and above the umbilicus, and finally above the growth itself, and still the hand was in the enormously distended vagina, which was occupied by the bulk of the growth. By repeatedly dragging upon the mass and applying volcella, disengaging and reapplying at a still higher point upon the growth, gradually this entire mass was dragged out of the vagina. It was an immensely large fibroid attached broadly to the interior of the uterus, the latter undergoing inversion as the mass was delivered. It was found impossible to separate the mass from the uterus itself at this time without the risk of considerable hemorrhage. It had a broadly attached base and it did not seem clear that any way was left to rid the woman of what had been extruded, except by making a stump of that portion of the uterus that was available for the purpose and removing all that portion of the uterus within reach, as well as the tumor itself. And this was done. Constriction was placed around the uterus close up to the vaginal wall. This consisted of a piece of rubber tubing, making an elastic ligature, and the hemorrhage was thus controlled. Before completing the constriction and making the incision which should separate the uterus from the neck or stump that had been made, it was deemed best to be certain that the bladder was free and that no intestine was included in the ligature.

With this in view an incision was made through a portion of the presenting body of the uterus and its serous surface exposed; no intestine was found to be present and a sound in the bladder showed this to be free. The constriction was, therefore, further tightened, and the mass cut away. The raw surfaces of the stump were thoroughly cauterized with the thermo-cautery and the patient put to bed in exceedingly good condition, considering what had been done. This procedure of delivery of the growth and of the inverted uterus, together with the removal, occupied about an hour. The specimen is interesting from the fact that the operation offered a way out of what seemed to be a very rare condition of affairs—the necessity for the prompt removal of this enormous sloughing mass, and that, if possible, without invading the cavity of the peritoneum in view of the profoundly septic condition, both general and local, present.

#### APPENDICITIS.

Dr. Fowler also presented an appendix, removed from one of the members of this Society, whom he had operated on Sunday

afternoon, 36 hours after the attack, for acute appendicitis. The symptoms in the first place, he observed, were exceptionally mild, so much so that when he first saw the patient a few hours after the onset of the attack there was no local or general tenderness, little distention, general abdominal pain, no nausea or vomiting; and a diagnosis of appendicitis was scarcely justified under the circumstances, particularly as the patient himself thought the trouble was due to something he had eaten the night before, which explanation seemed reasonable. Twenty-four hours after that time definite symptoms developed, so that in 36 hours from the first hour of the attack they were sufficiently serious to warrant operative interference. It was found at the operation that there was a gangrenous area almost in the middle of the appendix absolutely unguarded by adhesions and just ready to break down; fortunately perforation had not taken place. Barring slight post-operative pneumonia at the right base, the patient was doing well.

#### DISCUSSION.

Dr. H. B. Delatour said that these cases are all of exceeding interest, he recalled one case he had about eight years ago of intestinal obstruction due to the adhesions of an inflamed appendix over the ileum, on which he operated; but it was nearly a week after the first symptoms of obstruction had developed. Fecal vomiting had been present for a couple of days, and the man was in bad condition at the time of the operation and only lived a short time.

The gunshot wound of the liver was particularly interesting in addition to the intestinal injury. Two years ago he had had a case of a similar nature in which the ball perforated from behind and traversed the greater part of the right lobe of the liver. At the operation the anterior opening in the liver did not bleed; there was no discharge of bile from it and the opening in the intestine was easily closed. The bullet entered between the ninth and tenth ribs behind and at that point drainage was provided. The man was making an apparently good recovery, except for the fact that bile poured freely from the posterior opening, and he died on the fifth day. In very much the same condition as this, the speaker had had a patient die some four or five years ago in a case of ruptured intestine in which there was escape of bile from the duodenum. The skin became shrivelled up and had very much

the appearance of a wash-woman's hands. In that case he believed death was due entirely to loss of bile.

The case of tumor of the uterus is an exceedingly interesting one and it calls attention to the fact that when we have retention of urine we must not always be satisfied with relieving it with the catheter. It had been his experience to have similar cases of retention of urine or inability to pass urine due to the presence of abdominal tumors, though not of this sort, both of his cases being ovarian cysts. One case Dr. Fowler probably remembers, a case in which the retention of urine existed some five days before the cause of it was discovered; and it was peculiar in that the catheter was introduced with difficulty. A solid catheter could not be introduced, only a soft rubber catheter, and sometimes urine would be found and sometimes not. It might be introduced and find no urine and then within an hour introduced again and find a large quantity of urine. Within the past week he had removed an ovarian cyst from a young woman of 29, whose first intimation of the presence of a tumor was her inability to urinate; and in that case it was a cyst of the right ovary that occupied the pelvis entirely and raised the bladder out of the pelvis and jammed the urethra between it and the pubes so completely that it was impossible for the woman to empty the bladder herself.

Dr. Walter C. Wood said that in connection with the case of cholecystectomy he might mention two experiences of the past winter. He had drained a septic gall-bladder, removing a large number of stones, and some five weeks later he removed the gall-bladder and found the adhesions to the liver so strong that the gall-bladder was separated with some difficulty from the liver, and profuse hemorrhage ensued. It seemed best to thoroughly pack the site of the wound; this controlled the hemorrhage satisfactorily. Four strips of iodoform gauze some yard long and an inch or two inches in width were used. The woman suffered from vomiting the two following days, which was thought to be due to pressure of the gauze on the duodenum, for on removing the gauze, the vomiting immediately stopped and the woman made an uneventful recovery. He was not satisfied with this method of stopping hemorrhage occurring from the surface of the liver, but knew no better way.

The second case was one of gangrenous cholecystitis, fortunately a rare condition. He advised operation for a case of empyema of the gall-bladder four days before he was permitted to operate. On opening the abdomen, the gall-bladder was found

to be gangrenous and already perforated in two places, such a case makes one timid about advising delay in empyema of the gall-bladder, though we have been led to believe, and rightly, that there is not the imperative need of operation in this condition that there is in acute inflammation in some of the other abdominal organs.

Dr. J. B. Bogart asked what the experience of the members of the Society had been with reference to gangrene of the intestine following operations for appendicitis. In two cases in children such a result had been observed by him. In both cases peritonitis was very extensive. In one the appendix was directly under the incision and there was no considerable handling of the intestines. It was very easy to remove it, the operation was short, and he fully expected the child would recover; but it did badly, and on reopening the wound he found several feet of the small intestine gangrenous. The child died, and no further exploration was made.

He had had another case subsequent to that in which there was general peritonitis several days old, and collections of pus in the pelvis, under the liver and at the cardiac end of the stomach—three large collections of pus. The child died, and the examination made afterward revealed circumscribed gangrene of a portion of the intestine, without the cause for the gangrene being apparent. He wondered if any of the members had had similar experience or had any explanation to offer.

Dr. Geo. R. Fowler said that he thought we all had more or less to do with gangrene of the intestine in connection with the exceptionally severe types of appendicitis that present themselves to us. In his experience these have been limited entirely to the large intestine, and seem to have been simply an extension of the inflammatory gangrenous process from the appendix through the cecum and thence to the colon. These gangrenous portions have been quite limited; none was larger than a silver quarter of a dollar, and some smaller. Many of them were sufficient, however, to account for the subsequent development of fecal fistula, but most of them closed spontaneously. The most extensive gangrene he had ever had in appendix operations was one which was due to the operation.

He called attention to it only to show the viciousness of one of the methods of disposing of the appendix itself. Some years ago it was announced that the best and easiest, and in every way the most desirable method of disposing of the appendix, under circumstances where it was being removed upon opening the ab-



dominal cavity for other conditions, was to simply invert the appendix itself, starting from the tip and inverting it so that it hung loosely inside of the cavity of the cecum, and then putting one or two sutures over the little puncture or depression where it disappeared, the statement being made that it would take care of itself. The operator who proposed this method made the remark that he did not know what became of the appendix and did not care. Dr. Fowler had occasion to try this method. He observed that he now knows what becomes of the appendix, and is free to say that he does care. The appendix became the seat of a gangrenous condition, its blood-supply being cut off by ligature of the mesentery. It sloughed away inside of the cecum and the gangrenous condition, which was initiated by the appendix itself, extended to the cecum and thence to the colon; infection of the peritoneum occurred and the woman died. The operation which was originally advised for her was one which should have had a mortality of one-quarter of one per cent., certainly not more than one-half of one per cent., and these relate entirely to such post-operative complications as intestinal obstructions, which will occasionally occur whenever the abdomen is opened. This method, in view of his experience will be for him, at least, an impossible way of disposing of the appendix vermiformis. He believes, nevertheless, that it is best to remove the appendix where the operation is short, where the patient's chances are not lessened in any degree by a simple and rapid removal of the appendix itself; and while this accident has not deterred him from continuing to remove the appendix when it is available, it has certainly operated to prevent his accepting the statements of others in the matter of rapid and easy methods of disposing of the appendix vermiformis.

Dr. H. B. Delatour said that it was his misfortune in one of the earliest cases of appendicitis for which he operated, to have happen just what happened in Dr. Bogart's case. A young man who had had a number of attacks of appendicitis was operated on at the close of one of these attacks. He was apparently making a good recovery when at the end of a week or thereabouts he began to develop signs of intestinal obstruction, and rapidly failed and died. A post-mortem was made and a foot of gangrenous ileum was found, at least eight inches from the ileocecal valve. It was a clean case, no handling of the intestine, and the only way he can account for it is by the supposition of phlebitis of the mesenteric veins, with thrombosis. We have the quite common complication, more particularly in the septic cases of appendicitis, of phlebitis in-

volving the femoral vein and it seemed to him that the mesenteric veins may suffer to the same extent; and if a thrombus forms in one of the mesenteric radicals it may certainly be a cause of gangrene.

Dr. Wm. Maddren asked Dr. Fowler if he would recommend us to yield to the temptation to remove the appendix in many cases of herniotomy; or if we propose to remove a cystic ovary and the appendix comes in view, and the condition of the patient warrants—would he always remove it?

Dr. Fowler said that it was his belief and practice: wherever the appendix presents itself, the condition of the patient will admit it, and the manipulation necessary for its removal shall involve good technic, it should be removed.

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#### HISTORICAL DEPARTMENT.

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##### CHRISTOPHER RABORG McCLELLAN, A.M., M.D.

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A physician of the old school, and known to many of the older practitioners of this city, he was born in Baltimore, Md., October 18, 1813, and died in Brooklyn, N. Y., June 13, 1887.

He was prepared for college at Belle Air Academy, Harford County, Md., receiving the degree of A.M. from Yale University in 1833. In the same year he entered upon the study of medicine under the preceptorship of John Buckner, M.D., of Baltimore, Md., entering the Medical Department of the University of Maryland, from which institution he graduated M.D. in 1835.

During the years 1835 and '36 he was interne in the Baltimore City and County Almshouse; began the practice of medicine in the City of Brooklyn in 1837. During the fifty years of active practice in this city he filled the following positions: Professor of Botany, New York College of Pharmacy, 1839; Health Officer of the City of Brooklyn, 1841-'42; Attending Physician, Brooklyn City Hospital, 1845-'50; Consulting Physician, St. Peter's Hospital, 1877-'87.

His connection with the Medical Society of the County of Kings dates from 1839, being Censor in 1842, and Vice-President in 1850 and 1860, and President in 1861; member of the New York Physician's Mutual Aid Association, 1870-'87; New York Academy of Medicine, 1866-'87; delegate to the Amer-

ican Medical Association in 1866, and a member of the New York State Medical Association, 1884-'87.

He married Eloise M. Perry of this city, the children being Kate McClellan, who died August 5, 1869, and Alfred Perry McClellan.

WILLIAM SCHROEDER, M.D.,  
*Sec. of Hist. Com.*

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### SAMUEL HART, A.M., M.D.

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This venerable physician, who for fifty-seventy years practised the healing art, and who was respected for his Christian manhood, as well as for his qualifications as a physician, seldom if ever used any of the aids to locomotion except the cane which he carried for half a century.

He was born at Wakefield, Mass., on November 27, 1796, and died in Brooklyn, N. Y., September 3, 1878. His father was John Hart, Jr., M.D., surgeon in the Second Massachusetts Regiment during the American Revolution. His grandfather was John Hart, a physician and lawyer.

He received his early education in the schools of his native town, and prepared for Harvard University, graduating A.B. in 1817 and A.M. in 1820.

The study of medicine, under the direction of his father, John Hart, Jr., M.D., at Wakefield, Mass., in 1818, was completed in 1821, in which year he received the degree of M.D. from the Medical Department of Harvard University.

During the same year he began the practice of medicine at Beverly, Mass. In 1828 he removed to Oswego, N. Y., and in 1855 he came to the City of Brooklyn.

For a number of years he was curator in the Medical Department of the University of Buffalo, and surgeon in a regiment of riflemen in Oswego, N. Y. His connections with medical societies were as follows: Oswego County Medical Society, 1829, of which he was President; Fellow of the Massachusetts Medical Society, 1824; American Medical Association, 1849-'78; New York State Medical Society, permanent member, 1857-'78; Medi-

cal Society of the County of Kings, 1858-'78; Censor, 1861-'63 and '70; President in 1862.

He was also a member of the Long Island Historical Society and the Society of Cincinnati. His medical papers consisted of an address in 1862 before the Medical Society of the County of Kings; "Malformation Congenital, Five Cases," in 1861; "Polypus Uteri, a Case," in 1864.

He bequeathed his library to the Medical Society of the County of Kings.

In 1823 he married Miss Charlotte Newell of Boston, Mass.; a daughter, Lottie Palmer, now living in this city, and a son, are all that remain of five children, the result of this union.

WILLIAM SCHROEDER, M.D.,  
*Sec. of Hist. Com.*

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## MISCELLANEOUS.

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### COCAIN AND EUCAIN.

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A. H. Peck, M.D., D.D.S., Professor of Materia Medica, Therapeutics, and Special Pathology in Northwestern University Dental School, Chicago, in a paper, entitled "Relative Toxicity of Cocain and Eucaïn," read before the Section of Stomatology at the fiftieth annual meeting of the American Medical Association, Columbus, June, 1899, arrived at the following conclusions:

1. The action of cocain is inconstant; one never knows whether the symptoms occasioned by like quantities of the drug, in animals or individuals, under like circumstances, will be similar or dissimilar.

2. The action of eucaïn is constant. The symptoms occasioned by the use of like quantities in animals under like circumstances, and so far as my experiments have gone, in different individuals also, are the same.

3. The first action of cocain on the heart is that of a depressant, and on the respiration that of a mild stimulant; the after-effects being, on the heart, that of a decided stimulant, and on the respiration, that of a decided depressant.

4. The first action of eucaïn on both the heart and respiration

is that of a stimulant, the after-effects being that of a decided depressant.

5. Cocain causes death in animals by paralyzing the muscles of the respiratory apparatus, the heart's action continuing in a feeble way for a brief period after breathing ceases.

6. Eucain causes death in animals by paralyzing the muscles of the heart and of the respiratory apparatus, they ceasing to operate simultaneously.

7. Eucain in toxic doses nearly always causes nausea, and occasionally vomiting.

8. Cocain is much less nauseating and scarcely ever causes vomiting.

9. Eucain is decidedly diuretic, causing vesical discharge in a majority of instances in which a toxic dose is used.

10. Cocain is not a diuretic to any appreciable extent, vesical discharge having occurred in only one instance in connection with all my experiments.

11. The pupils of the eyes, in nearly all cases of cocain poisoning, do not respond to light, and the eyeballs bulge more or less from their sockets.

12. The pupils of the eyes in most cases of eucain poisoning do respond feebly to light, and the eyeballs rarely bulge from their sockets.

13. The action of the toxic doses of eucain is more like that of a paralyzing, tetanoiding, convulsion-producing agent, than it is like an anesthetizing one, the plantar and cremasteric reflexes nearly always remaining active.

14. Toxic doses of cocain cause general anesthesia in connection with the other symptoms in the majority of cases.

15. True tetanus of all striped muscles of the limbs and Cheyne-Stokes' breathing nearly always occur with the use of cocain; but either occurs seldom when eucain is used.

16. Cocain is at least three times more toxic than beta-eucain, and alpha-eucain is as toxic as cocain.

17. Boiling does not destroy the efficacy of cocain, but it does modify it; and boiling in no degree lessens the efficacy of eucain.

The above deductions have been made only after many experiments in connection with each individual point. I have observed many interesting features in connection with the relative worth of these drugs as local anesthetics, but this paper is not meant to treat of this phase of the work. There is much experimental

work yet to be done in this connection, the results of which I shall be pleased to present at some future meeting.

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## THERAPEUTICS: PAST, PRESENT, AND FUTURE.

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BY GEORGE F. BUTLER, M.D., CHICAGO, ILL

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A great step in the advancement of the science of pharmacy is the accurate estimation of the activity of various drugs by testing them upon living animals. This is known as the physiological assay. For some years the better class of manufacturing pharmacists have made a chemical assay of the various drugs amenable to such an examination. It has long been known, however, that the activity or strength of many drugs, such as *cannabis indica*, ergot, *strophanthus*, and *digitalis*, cannot be determined by the chemist. For instance, ergotin does not represent the therapeutic value of ergot, nor does cannabin represent that of *cannabis indica*, nor digitalin that of *digitalis*. Unfortunately the drugs of this class are the very ones which vary most widely in their activity, and are also the ones which the physician gives most carefully, and from which he wishes to obtain the most definite results. By the physiological assay the manufacturer tests each lot of drugs on a number of animals and does not allow the product to leave his laboratory until he has obtained definite results. The conclusion is inevitable that the physician will obtain his results much more surely with preparations so standardized than he will with those which have not been assayed. A brief description of these physiological tests as given by Dr. E. M. Houghton is interesting.

From times prehistoric it has been observed that in fowls, swine, and other animals, as well as man, fed with ergotized rye or with bread prepared from the flour of such grain for a considerable length of time, the poisonous action of the fungus is frequently manifested by gangrene and sloughing of the peripheral parts, as the comb of fowls, ears of hogs, and ears, nose, fingers, and toes of man. Two particular types of ergot poisoning have been observed, namely, *ergotismus gangrenosus* and *ergotismus spasmodicus*. Kobert and his pupil Grünfeld were the first to employ the feeding of ergot to roosters in order to determine the activity of the crude drug or of the products isolated from it.

However, these investigators employed the action only for experimental purposes.

In making the preparations of ergot, the carefully selected crude drug is tested by being fed to roosters, a certain number of grains to a certain weight of fowl. If it is of normal activity, it produces the local effect in the comb and wattles. This drug is then carefully exhausted with the proper menstruum, and the finished product is again tested in the same way. About one-third of the ergot thus tested is found to be inert. If the finished product proves itself below the standard, more of the drug is exhausted with the same menstruum.

The therapeutic importance of the heart tonics—digitalis, strophanthus, and others of the group—is now recognized, and these drugs are universally employed by physicians in their daily practice. We are not generally accustomed to think of the heart tonics as being the most poisonous remedies employed in therapeutics, yet it is true. According to some of the best authorities, the maximum dose of extract of digitalis is about one-half as great as the maximum dose of extract of belladonna; while strophanthin, the active principle of strophanthus, is three times as poisonous as atropin, ten times as poisonous as strychnin, and twelve times as poisonous as absolute hydrocyanic acid. It would be considered dangerous pharmaceutic practice to allow preparations containing atropin, strychnin, or hydrocyanic acid to be sold without first being subjected to careful chemic assay and standardization. The United States Pharmacopœia gives elaborate methods for the exact quantitative determination of these constituents; while owing to the fact that the obtained active principles of the heart tonics are glucosides so easily decomposed by chemic manipulation that an assay cannot be made, no directions whatever are given for the determination of the physiologically active properties of the galenical preparations of these drugs, and the tests for the purity of the respective glucosides are of little value. I shall speak of the physiologic assay of strophanthus, its active constituent strophanthin, and its pharmaceutic preparations. These will serve as types. About thirty varieties of strophanthus have been discovered. It is claimed that only six varieties contain strophanthin, while a few contain a still more active glucoside, ouabain. As found in the American markets, the drug generally consists of a varying mixture of the seeds of *Strophanthus Kombe* and *Strophanthus hispidus*. Preference is generally given to *Strophanthus Kombe*, since it contains about 0.95 per cent.

strophanthus, while *Strophanthus hispidus* contains about one-third less. The amount of contained strophanthin is partly dependent upon climatic conditions. It is a well-known fact that the physiologic activity of digitalis leaves varies within wide limits from year to year. Holmes, of London, who has given this matter much attention, claims that only by purchasing the seeds in the follicle and testing a seed from each follicle can a reliable preparation of strophanthus be made. An assay based on the amount of extractive contained in a given tincture is of little value to the physician, since the extractives consist largely of chlorophyll and other inert substances.

In making a qualitative assay a solution of the crude drug or its active constituent is applied to the laid-bare frog's heart, and the slowed rhythm, the less and less perfect diastole, the increased systole, and finally complete inhibition in systole, are noted. Intravenous injections of such solutions into dogs and rabbits are made with careful observation of the variations in blood-pressure and heart-beats, as shown by graphic tracings reported on the kymograph.

A quantitative estimation by pharmacologic methods is a much more difficult problem. Many series of experiments were necessary in order to decide what method is best for this work. Finally, the most practical method was found to be the determination of the minimum fatal dose on lower animals. Accordingly, rabbits, guinea-pigs, rats, frogs, etc., were employed, the frogs being finally chosen as the best adapted for the purpose. Different species of frogs vary considerably in reaction to the poisons, but the same species behave much alike. The method of administering the poisons and observing results may be briefly stated as follows: The strophanthin or tincture of strophanthus is dissolved in normal salt solution in such strength that the total quantity to be injected shall not exceed five cubic centimeters. The fluid is injected through the frog's mouth into the abdominal lymph sac. Great care is taken not to puncture the skin, as this will allow a portion of the injected fluid to leak out. After injection, the frogs are placed in wide frog glasses, the plates containing about a quarter of an inch of water. Several series of five frogs each are injected for each sample of the drug to be assayed, the first series to be injected with a drug of known standard strength. The second series is injected with doses varying considerably in size. The third series is injected after the approximate dose of poison has been found from the second



series. From the third series the minimum dose is almost surely fixed. A fourth series is finally injected, which fixes the limit of strength very closely. The minimum fatal dose should kill at least three frogs out of five. If a less number die, other series are injected with slightly increased doses.

A series of fourteen experiments made with tinctures prepared from different lots of the seed as found on the market showed the fatal dose of the strongest to be .00010 cubic centimeter per gram of body weight, and of the weakest to be 0.33 cubic centimeter per gram of body weight. Samples of strophanthin were obtained from three of the best manufacturing chemists in the world. These were supposed to be pure strophanthin, yet one was ninety times as strong as another, the others varying between these limits. The digitalin varies greatly in strength, but much less than strophanthin. Both strophanthin and digitalin are given daily in tablet or pill form, the amount of active ingredient being apportioned by weight—a splendid opportunity for the sudden termination of a favorably progressing heart case should the patient happen to have the prescription refilled from a fresh bottle. The only way that such remedies can be taken with any degree of safety is to have them prepared from stock of known physiologic strength.

The drugs assayed by the physiological method are: Ergot, cannabis indica, digitalis leaves, strophanthus seeds, convallaria majalis, and elaterium.—*Extract from Medicine.*

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## THE DISPENSARY BILL.

Introduced in the Assembly by Mr. Murphy on February 24, 1899, and signed by Governor Roosevelt on April 18, 1899.

AN ACT TO AMEND THE STATE CHARITIES LAW, RELATING TO THE  
LICENSING AND REGULATION OF DISPENSARIES, BY THE STATE  
BOARD OF CHARITIES.

The People of the State of New York, represented in Senate and Assembly, do enact as follows:

§ 1. Article one of chapter five hundred and forty-six of the

laws of eighteen hundred and ninety-six, entitled "An act relating to state charities, constituting chapter twenty-six of the general laws," is hereby amended by inserting at the end thereof the following sections:

§ 19. What is a dispensary?—For the purposes of this act, a dispensary is declared to be any person, corporation, institution, association, or agent, whose purpose it is, either independently or in connection with any other purpose, to furnish, at any place or places, to persons non-resident therein, either gratuitously or for a compensation determined without reference to the value of the thing furnished medical or surgical advice or treatment, medicine or apparatus provided, however, that the moneys used by and for the purposes of said dispensary shall be derived wholly or in part from trust funds, public moneys, or sources other than the individuals constituting said dispensary and the persons actually engaged in the distribution of charities of said dispensary.

§ 20. Licensing of dispensaries by the state board of charities.—A license may be issued by the state board of charities to a dispensary, as provided in this section. An application in writing for such license shall be made to such board in the form and manner prescribed by it, which shall be uniform for all schools of medicine. There shall be attached to such application a statement, verified by the oath of the applicant, containing such facts as the board may require. If, in the judgment of such board, the statement filed, and other evidence submitted in relation to such application, indicate that the operations of such dispensary will be for the public benefit, a license shall be issued to the dispensary applying therefor. The form of such license shall be prescribed by the board. A dispensary shall not enter upon the execution, or continue the prosecution of its purpose unless licensed by the state board of charities, as provided in this act. A license shall be issued, on application, to all dispensaries legally incorporated, and to unincorporated dispensaries conducted in connection with incorporated institutions at the time of the passage of this act.

§ 21. Rules and regulations.—The state board of charities shall make rules and regulations, and alter or amend the same, in accordance with which all dispensaries shall furnish and applicants obtain medical or surgical relief, advice or treatment, medicine or apparatus. But such rules and regulations shall not in any case specify the particular school of medicine in accordance with which a dispensary shall manage or conduct its work or de-

terminate the kind of medical or surgical treatment to be provided by any dispensary.

§ 22. Revocation of licenses.—The state board of charities or any of its members may at any and all times visit and inspect licensed dispensaries. They may examine all matters in relation to such dispensaries, and ascertain how far they are conducted in compliance with this law and the rules and regulations of the board. After due notice to a dispensary, and opportunity for it to be heard, the board may, if public interest demands, and for just and reasonable cause, revoke a license by an order signed and attested by the president and secretary of the board. Such order shall state the reason for revoking such license, and shall take effect within such time after the service thereof upon the dispensary as the board shall determine. The said board is hereby directed to apply to the supreme court to revoke the license and annul the incorporation of any dispensary legally incorporated, or conducted in connection with an incorporated institution at the time of the passage of this act, for wilful violation of the rules and regulations made by said board.

§ 23. Drug-store or tenement-house not to be used by dispensary; unlawful display of signs.—After the taking effect of this act, no dispensary shall make use of any place commonly known as a drug-store, or any place or building defined by law or by an ordinance of the board of health as a tenement-house; nor after such time shall any person, corporation, institution, society, association, or agent, thereof, except a duly licensed dispensary, display or cause to be displayed a sign or other thing which could directly or indirectly or by suggestion indicate the existence of the equivalent, in purpose and effect, of a dispensary.

§ 24. Any person who wilfully violates any of the provisions of this act, or any of the rules and regulations made and published under the authority of this act, shall be guilty of a misdemeanor, and on conviction thereof, shall be punished by a fine of not less than ten dollars and not more than two hundred and fifty dollars.

§ 25. Any person who obtains medical or surgical treatment on false representations from any dispensary licensed under the provisions of this act shall be guilty of a misdemeanor, and on conviction thereof shall be punished by a fine of not less than ten dollars and not more than two hundred and fifty dollars.

§ 26. All acts or parts of acts inconsistent with the provisions of this act are hereby repealed.

§ 27. This act shall take effect on the first day of October, eighteen hundred and ninety-nine.

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### NEW BOOKS AND BOOK NOTICES.

*All books received by the JOURNAL are deposited permanently in the Library of the Medical Society of the County of Kings.*

**A POCKET DICTIONARY OF HYGIENE.** By C. T. Kingzett, F.I.C., and D. D. Homfray, B.Sc. The Sanitas Co., L'd, New York City.

The object of this little book is to supply medical and sanitary officers with a pocket dictionary for reference in connection with their work. It is as complete a condensation of hygienic terms as we have seen and will undoubtedly serve a useful purpose.

**MASSAGE AND THE ORIGINAL SWEDISH MOVEMENTS.** By Kune W. Ostrom. Fourth edition, revised and enlarged, with 105 illustrations. Philadelphia. P. Blakiston's Son & Co. 1899. Pp. 168. Price \$1.00.

In this edition, the fourth in ten years, considerable new material has been added, and particular attention has been paid to constipation and lateral curvature of the spine. The book is designed for the physician, the nurse, and masseur.

**MINOR SURGERY AND BANDAGING.** By Henry R. Wharton, M.D., Demonstrator of Surgery in the University of Pennsylvania. New (4th) edition. In one 12mo. volume of 594 pages, with 502 engravings, many being photographic. Cloth, \$3.00, net. Lea Brothers & Co., Philadelphia and New York.

The principal features which characterize this edition as compared with previous ones, are the addition of a chapter on "Surgical Bacteriology" and a section on "Operative Procedures upon the Cadaver," including amputation, ligation, excision, the introduction of sutures, intestinal anastomosis, tracheotomy, and intubation, together with operations upon the bones, tendons, and nerves.

The instruction as to methods of minor surgery and bandaging is, as it always has been, of the best, while the illustrations, which have always illustrated, which cannot be said of all books, have been notably increased by the addition of 27 new engravings. The object of the publishers has been fully attained; viz.: "to make this the best obtainable manual on the subject in text and illustration."

**A TREATISE ON HUMAN PHYSIOLOGY** for use of Students and Practitioners of Medicine. By Henry C. Chapman, M.D., Professor of Institutes of Medicine and Medical Jurisprudence in the Jefferson Medical College of Philadelphia. New (2d) Edition thoroughly revised. In one handsome octavo volume of 921 pages, with 595 engravings. Cloth,

\$4.25, *net*; leather, \$5.25, *net*. Lea Brothers & Co., Philadelphia and New York.

"Chapman's Physiology" has always had certain peculiarities to be found in no other treatise, which have made it especially valuable to the student who wished to go to the original sources of information, and it is with great pleasure that we welcome this, the second edition. The feature to which we refer is the reference at the bottom of the very page where the subject is discussed to the writer who first announced the discovery, or the principle, and the publication in which he made the announcement. Thus on one page, which we have selected at random, we have references to "Physiologie Experimentale, 1856, Tome II., p. 404; Hunter, Phil. Transactions, London, 1772, p. 447; Dalton, Physiology, 2d edit., 1861, p. 132; Pavy, Phil. Transactions, London, 1863, p. 169; Spallanzani, *op. cit.*, pp. 107-308; Landois, *op. cit.*, p. 308." This historical record is of the greatest value, and must be the result of labored research and investigation.

The original edition was based on comparative and pathological anatomy, clinical medicine, physics, and chemistry, as well as upon experimental research, and the present one does not depart from these lines but rather develops them more fully.

The sections treating of physiological chemistry and the nervous system have been thoroughly revised and brought up to date. Taken as a whole the book contains all that the modern physiological student needs to know, and will prove of equal value to the practitioner.

**HAY-FEVER AND ITS SUCCESSFUL TREATMENT.** By W. C. Hollopeter, A.M., M.D. Second edition, revised and enlarged. Philadelphia. P. Blakiston's Son & Co. 1899. Pp. 151; price \$1.00.

A demand for a second edition of a book within a year is sufficient proof that it contains something worth reading, and that this is true of Dr. Hollopeter's work on hay-fever will be testified to by those who have read it. In the present edition the author has developed the special treatment of each of the various types of hay-fever cases, and has brought the bibliographic section up to date.

**PRACTICAL MATERIA MEDICA FOR NURSES,** with an Appendix Containing Poisons and Their Antidotes, with Poisoning Emergencies, Etc., Etc. By Emily A. M. Stoney, Graduate of the Training School for Nurses, Lawrence, Mass. W. B. Saunders, Philadelphia. \$1.50.

We confess that we do not see the call for this volume. The market is already overloaded with compendiums on this very subject. They are all of the same character. The matter is so condensed that it is very difficult reading. This contains much more information than a nurse requires. She has no need for it. What is the object of attempting to make her even partially conversant with the general list of drugs we cannot see. The chapter on poisons and their antidotes is quite necessary, but it would be much better if it covered the whole 265 pages instead of the seven.

We would suggest to the authoress to omit the first two parts in the next edition and expand part III. into a thorough lesson on the subjects more in touch with nurses' art.





**SAMUEL HART, M.D.,**  
**PRESIDENT OF THE MEDICAL SOCIETY, COUNTY OF KINGS, 1862.**







**JOSEPH CHRISMAN HUTCHISON, M.D., LL.D.**

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# THE BROOKLYN MEDICAL JOURNAL

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## ORIGINAL ARTICLES.

No paper published or to be published elsewhere as original will be accepted in this department.

### A MODIFIED PROCEDURE FOR THE RADICAL CURE OF VARICOSITIES OF THE INTERNAL SAPHENOUS VEIN.

BY RUSSELL S. FOWLER, M.D.,

Instructor in Surgery, New York Polyclinic; Adjunct to the Surgeon-in-Chief, Brooklyn Hospital; Assistant Surgeon, Methodist Episcopal Hospital; Consulting Surgeon, Southern Dispensary and Hospital; New York.

Read before the Medical Society of the County of Kings, October 17, 1899.

This procedure consists in a combination of two methods both of which have been modified, the first by Professor Fowler and the second by myself. In addition I have lately employed subcutaneous extirpation of the greater portion of the external saphenous vein. Trendelenburg's procedure is the first referred to; Casati's ("Total Extirpation of the Internal Saphenous Vein," by E. Casati, Ferrara, G. Bresciani, 1899) is the second. Trendelenburg's operation, as modified by Professor Fowler, is performed as follows: An inch and a half skin incision

is carried down to the deep fascia of the thigh at the level of the saphenous opening and in the natural cleavage line of the skin which at this point is at almost a right angle with the long axis of the thigh. This exposes the internal saphenous vein as it enters the saphenous opening to empty into the femoral. The superficial circumflex iliac, the superficial epigastric, and the superficial external pudic are seen joining the saphenous, the first on the outer side, and the latter on the inner side, just before the main vein passes through the opening. In place of one large saphenous trunk, two, three, and sometimes more veins may be seen converging at this point from the inner and lower portion of the thigh to form an extremely short main trunk in the saphenous opening. One such case, which came under our care at the New York Polyclinic in 1897, had five such large veins which united in the saphenous opening to form a trunk barely half an inch in length. Two catgut ligatures are passed around the main trunk with an aneurism needle and tied. Sufficient space is left between them to section the vein. Should there be but a short main trunk as above, all of the branches coming from below are doubly ligatured and sectioned. The skin incision is closed with a linen subcuticular suture. This operation is far superior to Trendelenburg's procedure, as it cuts off all possible anastomosis between the veins above and below the site of ligature. Trendelenburg's original procedure consists in simple ligature of the internal saphenous vein at the junction of the middle with the lower third of the thigh. It is a revival of an older operation. His second procedure included resection of a part of the vein at this point. Laplace employed ligation of the internal and external saphenous simultaneously. Operations upon the internal saphenous have been so numerous that it is difficult to give credit for all of them to the originators.

Casati's procedure, so far as I can learn, is original. He advocates total excision of the internal saphenous vein for the radical cure of varices in its course and the accompanying ulcers. In order to avoid the long skin incision which this would usually involve, a four centimeter incision over the vein is made eight centimeters below the femoral fold. The vein is isolated from the surrounding structures as high up as is possible and is ligated. The vein is then isolated as far downward as possible and traction put upon it so that it stands out as a fibrous cord for the entire length of the thigh. A second four-centimeter incision is made four centimeters above the knee-joint and the vein isolated

first in an upward and then in a downward direction. Traction is put upon it and the upper femoral portion of the vein drawn out of the second incision. The same procedure is repeated through an incision below the knee and a fourth above the ankle, so that finally the main trunk of the internal saphenous vein has been removed in one piece. One of the advantages which the author claims for this procedure is that there is no wound in the groin, consequently the difficulty attending the retention of a dressing for such a wound is avoided. Another advantage is that there is no cicatrix over the knee-joint which might prove painful. Casati reported three cases which were successfully treated by this method.

I have used Trendelenburg's procedure, as employed by Professor Fowler, in a long series of cases of varicosities and ulcers in the course of the internal saphenous vein. Some cases were cured, some were improved, and some after a temporary improvement relapsed. All of the cases operated upon were first subjected to a rigid examination as to the applicability of the proposed procedure. The patient was placed in bed with the affected limb elevated and kept so until the superficial veins had emptied themselves. Two fingers were then placed over the course of the saphenous vein in the upper part of the thigh, tightly compressing it. The patient was then placed in the upright position. If, in spite of the pressure exerted through the fingers, the veins refilled, the case was not considered suitable for ligation at the saphenous opening. If, on the other hand, the veins did not refill while the pressure was maintained, but upon removal of the fingers the blood was seen to fill it with a rush, the case was considered one that could presumably be benefited by ligation. In addition to operation, these cases were treated by tonics and other needful medication. When ulcers were present, these were treated by parallel incisions of their edges, curetting, stimulation, and basket strapping. In some cases in which ulcers and varicosities were present upon both legs, ligation of the saphena cured one side absolutely, but the other side soon relapsed. In such cases, at a second operation, I have used the garter operation. This consists of a circular incision completely around the thigh, two inches above the knee-joint, and carried down to the deep fascia. Each vessel is clamped and tied as it is cut. Finally the incision is closed with several subcuticular sutures, reinforced at intervals with silkworm-gut sutures. The results following this procedure were in some cases excellent. Temporary anesthesia

of the skin resulted in all cases above and below the incision for an extent of a few inches. It was noted in some cases in which a previous ligation of the internal saphenous had been done that this vein was collapsed and empty, but other veins in the line of the circular incision were much enlarged. Under these conditions an empty internal saphenous vein was found large enough to admit the index-finger. Furthermore, in some of these cases the external saphenous was ligated at the point where it pierces the deep fascia of the calf between the heads of the gastrocnemius to empty into the popliteal vein. In a few cases even this additional precaution was unsuccessful and there only remained the individual dissection and extirpation of the varices.

Lately I have employed the following procedure: First, the internal saphenous vein is exposed at the saphenous opening, as described previously. It is isolated, ligated, sectioned, and the skin incision closed with a linen subcuticular suture. Second, the vein is identified just below the level of the knee-joint. A skin incision one inch in length is made down to it and a piece of catgut passed around it for purposes of traction. It is isolated as far in an upward direction as possible by introducing the long slender handle of a scalpel along its course beneath the skin. This is facilitated by putting the vein upon the stretch. The vein is strongly attached so that it gives way at the uppermost point. The isolation of the vein is then carried on in a downward direction as far as may be. It is put upon the stretch. This causes it to become prominent for the whole length of the leg. A second incision one inch in length is made over the course of the vein a few inches below the junction of the middle with the lower third of the leg, so as to escape pressure from the shoe-top upon any scar which might result. The vein is brought into this incision, isolated as far as possible in a downward direction and attracted so as to cause it to give way at the lowermost possible point. Isolation is then carried in an upward direction as far as may be. We now have two small incisions through each of which protrude three or four inches of the internal saphenous vein. The vein is still held by some few attachments at a point midway between the two incisions. By alternately attracting first one of the free ends of the vein and then the other, these points of attachment are gradually loosened and the entire vein removed, as one would withdraw a catheter from the bladder. A half-inch incision is carried down to the external saphenous vein midway between the knee and the ankle. The vein is isolated as far in an

upward direction as possible, and traction put upon it until it gives at the highest possible point. The same procedure is repeated in a downward direction and the vein withdrawn. Hemorrhage from the torn tributary veins is as a rule inconsiderable and stops spontaneously. In any event the pressure of the dressing is amply sufficient to control it. The skin incisions are closed with linen subcuticular sutures and dressed. The entire limb is bandaged firmly from the toes up and ended with a spica of the thigh and pelvis, in order to securely retain the dressing over the site of ligation at the saphenous opening. In addition, the limb is placed upon a Volkmann splint and securely bandaged to it. At the end of one week the sutures are removed and the patient allowed to walk about with the extremity snugly bandaged.

The facility with which this procedure can be carried out is surprising. It has met with uniform success thus far in the few cases in which I have employed it. In putting traction upon the veins the fingers should be used to grasp the vein and it should be attracted in the long axis of its course.

To repeat, the points in the procedure are: (1) Ligation and section of the internal saphenous vein at the saphenous opening. (2) Complete excision through two one-half-inch incisions of the entire internal saphenous vein below the knee. (3) Excision of the greater portion of the external saphenous vein through a one-half-inch incision.

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#### SUIT FOR DEFECTIVE SANITARY ARRANGEMENTS.

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A prominent banker of New York is being sued for damages to the amount of \$25,000, the ground of the suit being that the condition of premises leased by him was represented to be excellent from a sanitary point of view, whereas the fact was that it was defective, and that as a result of occupancy two of the plaintiff's children contracted scarlet fever and his wife suffered from nervous prostration.

We imagine that it will be rather difficult to prove that scarlet fever is attributable to defective plumbing, even though offensive odors were detectable in the house and the fixtures were untrapped and admitted sewer-air.

# THE BROOKLYN MEDICAL JOURNAL.

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## EDITORIAL.

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### INDEFINITENESS OF MEDICAL NOMENCLATURE.

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Under the above title, Dr. H. A. Fairbairn recently read a paper before the Brooklyn Alumni of the College of Physicians and Surgeons, in which he called attention to the slowness of the progress made in the nomenclature of diseases, however rapid it might be in other departments of medicine, so that physicians are to-day using terms which came into vogue many years ago when knowledge of the diseases to which they were applied was vague and limited. He attributes considerable of the sarcastic thrusts of critics at the classification now employed to the belief on their part that the knowledge of medical men is no greater now than then; since the terms they use remain the same as they were a generation ago. As an illustration he mentions typhoid fever, so named on account of its resemblance to typhus in respect to stupor and a condition of prostration; now we know that these are of no diagnostic importance whatsoever, and indeed may neither of them be present in well-marked cases. The teaching of to-day is that the disease is an infection and manifests itself in a variety of forms, and its name should be altered to correspond with the

progress that has been made in the discovery of its cause. Dr. Fairbairn suggests that it be called the infection by Eberth's bacillus. He criticizes also the term enteric fever as making too prominent its most important lesion.

Similar objections he urges to "Pneumonia," which suggests nothing specific, but simply directs attention to the lungs as being the organs affected. Dysentery, influenza, hysteria and other diseases come in the same category.

The subject is a most interesting one and we shall hope that Dr. Fairbairn will elaborate it and give the result to the readers of the JOURNAL.

Another striking instance of the misuse of terms is the one now so prevalent of applying the word "vaccination" to almost every form of preventive inoculation. Thus we read in a prominent medical journal of the "vaccination of British soldiers against typhoid," by inoculating those about to sail for South Africa with antityphoid virus.

So too with the term "vaccine virus." Up to most recent times this has been understood by laity and profession alike to mean the serum and scrapings from the vesicles of cowpox, used as a means of prevention against smallpox.

Recently the term has been misconstrued by common and commercial usage to cover other products not in any way connected with either cow- or smallpox. Materials produced by the attenuation of the cultures of anthrax and symptomatic anthrax have been put on the market as "Anthrax Vaccine Virus" and "Black-leg Vaccine," which are not, in the strict interpretation of the word, vaccines at all. The term "Virus" is also misused; virus is understood to mean a putrefactive product generated outside the body. "Venom" on the other hand, is understood to be a physiological product, yet these terms are often used synonymously.

Nor is what we regard as a misuse of the term confined to commercial usage. In the most recent work on this and cognate subjects, "Hygiene of Transmissible Diseases" by Dr. A. C. Abbott, we find the following: "Living vaccines capable of protecting animals more or less completely against fatal infection have from time to time been prepared by subjecting the virulent organisms that cause the disease to a variety of detrimental agencies, etc;" and again, "Living vaccines, prepared by some one or other of the foregoing procedures, have been employed experimentally and in practice with varying degrees of success for the purpose of protecting animals, and in two instances, man, against a number of



infectious diseases, notably anthrax, symptomatic anthrax, swine erysipelas, pleuropneumonia, diphtheria, glanders, pneumococcus infection, Asiatic cholera, and rabies (the last two in man also)."

We think it would be well to restrict the term "vaccine" to the infectious agent of cowpox, not using the word "virus," and to call the laboratory products used for preventive inoculation against diseases other than smallpox, by some other name.

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### THE DISPENSARY LAW.

In the last issue of this JOURNAL we published the law relative to dispensaries in the State of New York which went into effect on October first. In this month's issue we publish the rules and regulations adopted by the State Board of Charities under the power conferred upon them by this act of the Legislature, "in accordance with which all dispensaries shall furnish, and applicants obtain medical and surgical relief, advice or treatment, medicine or apparatus."

The sixth rule is somewhat peculiar. We did not know that there were any dispensaries in which secular or religious instruction was given. One would hardly imagine that persons sick enough to need medical advice and treatment would be in the most favorable physical condition to receive secular instruction, and if they were, it would seem that there might be better places to obtain it. It would be interesting to know what subjects are now taught in dispensaries, if such there be, and if not, what information the State Board had, which we are sure the medical profession has not, on which such a rule was based. And then, as to religious instruction. Is it possible that any religious sect takes advantage of the sick who come to them for bodily relief to attempt to proselyte them? Else why this rule? It seems to us that in framing rules for dispensaries, secular and religious instruction should have been absolutely and unqualifiedly prohibited and not regulated merely. There is, in our judgment, a great danger lurking here, and one which demands the closest scrutiny, beside which the question of

gratuitous medical treatment for those who are able to pay sinks into utter insignificance. We imagine that those who were the warmest advocates of the law and who were most instrumental in securing its passage had little notion that religious instruction was connected in the remotest degree with the out-door treatment of the sick poor.

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## PROGRESS IN MEDICINE.

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### SURGERY.

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BY GEORGE RYERSON FOWLER, M.D., ASSISTED BY RUSSELL S. FOWLER, M.D.

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#### AMBULATORY TREATMENT OF FRACTURES OF THE LOWER EXTREMITY.

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J. Dollinger. This paper is a report of one hundred and ten cases of fracture of the lower extremities, seventy of these being fractures of the leg and forty of the femur, treated by ambulatory measures.

In all of these cases, unless such contraindication as effusion into joints was present, primary plaster-of-Paris bandages were applied. This was not reinforced by the additional rubbing in of liquid plaster. In complicated fractures the walking cast is not applied until all dangers from such complications are past. The cast is not renewed in recent cases unless there is pressure on some large extravasation of blood. Fifty-one cases of the seventy fractures of the leg and thirty-one of the forty fractures of the femur united with the application of one cast.

Concussion of the fractures is prevented by the interposition of a cotton sole three cm. thick. The bandages are not applied directly next to the skin, but this is protected by a thin layer of cotton.

In fractures of the lower third of the leg the author uses in cases which can afford it a special apparatus. This consists of two pieces, a laced shoe for the foot and a leather legging, connected together by pieces of steel. These are made to order for each case. The proper size is accurately determined by making a plas-

ter model of the parts. While this apparatus is in the process of construction, the patient walks about in a plaster cast. [De Quervain (Chaux-de-Ponds) in a review of this paper in the *Centralblatt für Chirurgie*, 1899, No. 35, p. 966, remarks that these shoes will hardly be practical in fractures of the external malleolus as they do not secure the over-correction necessary in these cases, in order to prevent the resulting position of valgus. This point is apparently overlooked by the author (Dollinger) in the treatment of fractures of the lower third of the leg.]

In oblique fractures with a great amount of shortening the cast is applied while the leg is kept extended by means of a pulley. First a plaster dressing is applied up to the level of the fracture. Several additional turns of the bandage are made at this level to form a "stirrup." This is allowed to harden. Traction is then made by means of the pulley and the remainder of the cast applied.

In cases in which the fracture involves the upper part of the leg the cast is continued up the thigh to the level of the tuberosity of the ischium. In these cases also traction is employed.

The cast is usually removed at the end of the sixth week in fractures of the leg. In ten cases in which union was not sufficiently firm another and lighter cast was applied. On the removal of this light cast the fractures were found firmly united.

In fracture of the femur the bandage was applied in two stages. Traction was made by a pulley attached above the knee-joint. The first part of the bandage extended to the middle of the thigh. The second part included the upper portion of the thigh and the pelvis. Under this treatment very good results were obtained. In sixteen cases no shortening occurred; in nine cases the shortening was less than one cm.; in five cases between two and two and one-half cm. shortening; in one case the shortening amounted to three cm.—*Wiener Klinik*, November, 1898.

#### LARYNGOSCOPIC TREATMENT OF MALIGNANT TUMORS OF THE LARYNX.

A. Jurasz (Heidelberg). The malignancy of certain tumors of the larynx is relative; some are more malignant than others. In their commencement these are strictly localized affections and may remain quiescent for a long time, in some cases for years, as small sharply circumscribed infiltrations or papillæ, not giving any symptoms of their malignant nature. For such cases the au-

thor advocates laryngoscopic treatment. It is claimed that treatment by this means, if undertaken early in the course of the affection, offers a better prognosis and is as thorough a method as laryngotomy. It is even superior to the latter in its simplicity and freedom from danger [Haeckel of Stettin, who wrote the abstract of this original paper for the *Centralblatt* (1899, xxxvi, 988) calls attention to the case reported by Gluck which died of hemorrhage (*Therapie der Gegenwart*, 1899, May) ]. It is also to be advocated as it restores the physiologic conditions. Furthermore the endolaryngeal method should be considered a palliative measure in the more advanced stages of the growths.

Up to the present time thirty-two cases of malignant disease of the larynx have been operated upon in this way. Fifty-six per cent. of these completely recovered. The author agrees with B. Fraenkel that the thermo-cautery should not be employed. He uses for all cases a curette especially devised for the purpose.

In conclusion, Jurasz reports a case of epithelioma removed endolaryngeally. The case is one of particular interest, as though the vocal cords were excised cicatricial bands developed and there was "complete regeneration of the vocal cords, which allowed of distinct and loud speech."—*Therapie der Gegenwart*, Hft. 6, 1899.

#### HEMIOTOMY.

(Seventh Meeting of the Congress of the Russian Physicians and Surgeons, at Kasan, April and May, 1899.) W. P. Serenin. In order to render the closure of the peritoneum positive this author proceeds as follows: The sac is isolated for one cm. beyond its neck. Mattress sutures are placed on each side and the edges of the opening each pushed to the opposite side so as to form two layers of tissue (*Wratsch*, 1899, xxvi.). Two umbilical, one inguinal, and three femoral herniæ were successfully treated by this method.

A. G. Brshosowski reported that he had operated upon sixty-two patients in country districts. Seventy-two operations were done in all. Sixty-nine of these were for inguinal hernia, one for femoral, one for epigastric, and one for lumbar. Kocher's operation was used sixty-eight times; Bassini's once; atypical operations were done in three cases. Fifty-two cases healed by primary union. In twenty, suppuration occurred. Three recurrences were observed. [Not sufficient time had elapsed in the majority of cases to speak definitely upon this point.]

J. A. Praxin reported that he aimed particularly to suture the oblique and transversalis over the funnel-shaped space at the lower part of Poupart's ligament. In inguinal hernia these muscles are dislocated upward and the sac is simply covered with the fibers of the cremasteric and infundibuliform fascia which easily gives way to the pressure of the hernia. The author has operated upon ninety-two cases by this method since 1894. All of these recovered. Suppuration occurred in twenty-one cases. In twenty-seven cases, which were traced, there was but one recurrence.

B. S. Koslowski reported that he had operated upon one hundred and one cases of inguinal hernia, six femoral, two umbilical, and two of the linea alba. In the cases of inguinal hernia, MacEwen's method was used six times, Kocher's method forty-two times, and Bassini's method fifty-two times. The Bassini procedure was preferred for the following reasons: It is not necessary to make any new incision in the abdominal wall, the canal suture including a thick layer of tissue on each side, (Kocher's takes only the external oblique internally), the posterior wall of the canal is formed of muscular structures, the method is applicable to herniæ of any size, there is not so much blunt dissection of the tissue, and, finally, all the steps in the operation can be seen.

A. A. Bobrow had operated in one hundred and fifteen cases of inguinal hernia. In eighty-two of these the author's own method was used; in ten, Kocher's; in two, Bassini's; in eight, MacEwen's; in sixteen cases in which no sac could be found the rings were simply sutured. Hematoma followed operation in three cases. Suppuration occurred in seventeen cases. Deep sutures were extruded in seven cases. Five cases of femoral hernia were operated upon. In two of these, suppuration occurred. In sixteen operations for umbilical hernia suppuration followed in three cases and death from peritonitis in a fourth case. There were in all one hundred and thirty-six herniæ occurring in one hundred and three patients.—*Centralblatt für Chirurgie*, 1899, xxxvi, 991, 992.

#### SUPRAPUBIC CYSTOTOMY.

T. Wikerhauser. This paper is the result of the author's experience in about one hundred cases of suprapubic cystotomy. The operation is performed under deep narcosis or with Schleich's local anesthetic. Special stress is laid upon the tamponade of the

prevesical space with iodoform gauze preliminary to opening the bladder. By this means the author has avoided any phlegmon formation in the pelvic connective tissue. In the closure of the bladder all the sutures are first placed, beginning at the lower angle, then tied. The accuracy of the suturing is tested by filling the viscus with a solution of boracic acid. As soon as this is determined satisfactorily the tight prevesical tamponade is removed and a light drain of iodoform gauze substituted for it. Usually a permanent catheter is placed in the urethra. In juvenile patients this may often be omitted, but they must be made to urinate voluntarily every two hours. In cases in which the edges of the bladder wound have been considerably contused, as by the difficult extraction of a calculus, or in severe inflammatory affections, or in cases of inoperable tumors or those which grow from a flat base, the size of the wound is to be reduced as much as possible, the surroundings are to be tamponed with iodoform gauze, and a permanent catheter is to be introduced through the urethra or through the abdominal wound into the bladder. For the latter purpose a Dittel's angulated tube or a thick Nélaton's catheter may be used. This is held in place by suturing it to the edge of the abdominal incision. Each edge of the bladder incision is also fixed in the wound by a single suture.

As complications, the author mentions perforation of the anterior vesical wall in cases of contracted bladder. In such cases it is very difficult to raise the viscus and infection of the prevesical space takes place before this could be protected by tamponade. Injuries to the peritoneum are to be immediately sutured. Hemorrhage from the bladder and injuries to the mucous membrane, due to the difficult removal of calculi, sometimes require tamponade of the bladder. When this is necessitated care should be exercised that the packing be not too tight.

If, in the course of the after-treatment, severe hemorrhage occurs, the bladder must be reopened and explored for the site of the bleeding. Should the source not be ascertained the entire bladder must be tamponed. Drainage of the prevesical space is dispensed with as soon as this is granulating. Should a urinary fistula ensue, the introduction of a permanent catheter by way of the urethra will usually suffice for a cure. If this fails the fistula is curetted or excised. To further guard against infection, the author advocates good drainage, frequent change of dressings, and keeping the patient in the abdominal posture.

Wikerhauser is unreservedly in favor of suprapubic cystotomy.

He believes that the operation is quite free from danger. A good result is impossible in some cases on account of the different complications of the disease for which the operation is done. To-day it is permissible to open the bladder for palliative drainage and even for purposes of exploration. It is possible by so doing to at least lessen the pain which torments every patient, the victim of a bladder lesion.—*Liecnicki viestnik*, 1899, No. 4. [Kroatisch.]

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## GYNECOLOGY.

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BY WALTER B. CHASE, M.D., ASSISTED BY CARROLL CHASE, M.D.

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### EARLY OVARIOTOMY—ITS PRACTICAL NECESSITY.

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Rosenwasser, Cleveland, Ohio. (*Virginia Medical Semi-Monthly*, July 7, '99), says many accidents and complications happen with small as well as with recent ovarian growths. Neither the size nor the age of the tumor is a criterion of the possible immediate or remote dangers from its presence.

In order to emphasize the special points to which attention is called, the author gave a brief synopsis of a few typical cases selected to exemplify the various complications that may arise in the early stage of ovarian cystoma, or that may result from delay. His conclusions are as follows:

*First.*—Uncomplicated ovariectomy, in proper hands, is a simple operation with scarcely any risk.

*Secondly.*—Malignancy, trauma, torsion of pedicle, infection, suppuration, adhesion to viscera, and pregnancy, materially increase the difficulties and risk of the operation.

*Thirdly.*—To avoid complications liable to occur at any time, the removal of ovarian growths should follow the diagnosis without unnecessary delay.

Let the terse axiom formulated by Dr. Howard Kelly, henceforth be the recognized rule of procedure: "From a practical standpoint, all ovarian tumors must be considered as malignant until removed and proved otherwise."

### TECHNIC OF ABDOMINAL HYSTERECTOMY.

Carstens (*Virginia Medical Semi-Monthly*, October 13, 1899) says that after the usual careful aseptic preparations, the patient

is placed in the Trendelenburg position. After freeing adhesions, the uterus and the growth are pulled out of the abdominal cavity with the aid of a corkscrew. The intestines are kept in place by abdominal towels. Clamps are placed on each broad ligament outside of the ovary. The broad ligament is cut one-quarter of an inch from the clamps down, as far as the latter extend. A cut is then made across the uterus anteriorly from the point of one clamp to that of the other through the peritoneum, and the bladder is separated from the uterus. Another pair of forceps are now placed on the broad ligament down to the cervix, and the balance of the broad ligament is cut to the point of the clamps. The slight attachment to the vagina and anteriorly is now easily separated, and the growth and uterus are removed.

We now have four clamps in position—two containing each ovarian artery, and two containing the uterine arteries. Each artery is now separately ligated with dry sterilized catgut. If the arteries of the round ligament are large, as they sometimes are, they also require a ligature. The clamps are now removed, and the stumps and raw surfaces carefully covered with peritoneum by a running suture of dry sterilized catgut. If the cervix is removed a small opening is left for a temporary drain. If the cervix is left in, no drainage is used except in septic cases, when a puncture in the posterior cul-de-sac is made use of for the insertion of a rubber drain.

The conclusions of the paper are as follows:

*First.*—In the abdominal hysterectomy, clamp the broad ligaments and remove the growth and uterus.

*Second.*—Ligate the four blood-vessels separately.

*Third.*—Carefully cover all raw surfaces with peritoneum.

*Fourth.*—In cases without tears and healthy mucous membrane, leave in the cervix.

*Fifth.*—If there is found to exist any diseased condition of the cervix and malignant growth, perform total hysterectomy.

#### TOTAL EXTIRPATION OF THE UTERUS FOR MYOMA.

Döderlein (*Hegar's Beiträge*, etc., Bd. II., No. 1) reports the results of ninety cases of this operation, the interference comprising three different modes of procedure, *viz.*, vaginal extirpation, laparotomy, and the combination of both of these methods.

By the vaginal method there were thirty-three cases; mortality, none. In eleven of these cases it was possible to apply liga-



tures before removing the uterus; in eighteen cases it was necessary to make use of clamps; while the four remaining cases required both ligatures (after removal) and clamps. As disadvantages of the clamp treatment, the author enumerates the inability to isolate the peritoneal cavity, with resulting danger of intestinal prolapse and infection; the pain caused by the clamp, which requires opium, and, finally, the presence of the gangrenous stump, which requires wound treatment for two weeks.

Döderlein next speaks of the Doyen-Tuffier angiotribe, which is intended to accomplish in a few seconds what the ordinary clamp can bring about only after forty-eight hours. In Germany, Thumim has applied this principle in twenty-six cases of total extirpation without the occurrence of secondary hemorrhage. The angiotribe was not used in the present series, although Döderlein has employed it in ovariectomy, hysterectomy, for prolapse, etc. He regards the principle as a great advance in technic, which must, for the present, be used very circumspectly on account of its novelty. It saves the patient much suffering.

The second series of Döderlein's cases—*viz.*, thirty-one laparotomies for total extirpation—had a mortality of one. Döderlein's procedure consisted in ligating off the infundibulo-pelvic ligaments, opening the posterior fornix vaginæ, drawing forth the portio vaginalis, separation of the bladder from the the vagina, ligation and separation of the parametrium. Clamps were temporarily used to check hemorrhage, and were replaced by ligatures. Accidents may readily occur, as Döderlein once opened the bladder (fortunately the wound was successfully closed); in another instance he enclosed the ureter in his ligature (this case was the fatality already alluded to, the patient dying of pyelonephritis); a third accident was laceration of a portion of the ileum, in which case death was averted only by promptly reopening the abdomen. By reason of these numerous accidents the author is not inclined to look with favor upon laparotomy in these cases.

Döderlein's third series consisted of twenty-six cases of combined operation, with no mortality. The patient was placed in the lithotomy position, the portio vaginalis colli was detached, and the cut surface of the vagina touched with the electric cautery. Clamps were then placed upon the parametria through the vagina. This stage of the operation lasts five minutes. The patient is then placed upon the Martin-Péan table, or in Trendelenburg's position, and laparotomy performed. A corkscrew-like instrument

is then introduced into the myomatous uterus, and the latter is brought well into view, and other clamps are applied to the upper portion of the broad ligaments. The latter structures are then divided, and the second set of clamps replaced by ligatures, while a continuous peritoneal suture separates the vagina from the peritoneal cavity. The abdominal wound is then closed. The first, or intravaginal clamps remain *in situ* three days.

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## DISEASES OF THE NOSE AND THROAT.

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BY WILLIAM F. DUDLEY, M.D.

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### ADENOID VEGETATIONS AND DIPHtheria.

A. Plottier (*The Laryngoscope*, August, 1899). The hypertrophy of the lymphoid glands of the nasopharynx is much more common than is supposed, because slight enlargements may not give rise to marked symptoms. It is probable that in certain cases "an etiological relation can be established between adenoid vegetations and diphtheritic angina." The most frequent site of the initial lesion of diphtheria is the faucial tonsils, it is, therefore, possible that identical pathological processes occur concomitantly in the gland tissue of the pharyngeal vault. All these tonsillar masses are practically identical in structure, but the upper gland not being directly visible, may be diseased and often remain unnoticed.

Also, children having an enlarged Luschka's tonsil are especially susceptible to acute inflammatory diseases of the upper respiratory tract; the relation of this condition to diphtheria, therefore, warrants attention.

At the Hôpital des Enfants Maladies, Paris, an examination was made of the nasopharynges of thirty-eight children who died of diphtheria or its direct results, and twenty were found to have hypertrophied lymphoids. In no other infectious disease has so great a proportion been reported. In conducting the test upon the cadavers, the soft palate was drawn forward and a thorough digital exploration was made, the mass was then removed by a curette. Only those cases having lobulated or pediculated tumors were considered to have adenoids; those in which the mucous membrane was simply granular or tumefied were ex-

cluded. Some of the enlargements were firm and smooth, showing chronicity, and others were soft, friable, and of acute development. In two instances the detached lymphoid was coated with gray colored false membrane, as were also the faucial tonsils, while in one case diphtheritic membrane was found on the nasopharyngeal tonsil and the oropharynx was free from exudate. Serum-therapy had been employed and this causes rapid detachment of false membrane, otherwise the exudate might have been found in the vault in a greater number of cases. No statistics were obtained regarding the frequency of diphtheritic involvement of the nasopharynx in children who have recovered. The possibility of grave infection from membrane in this locality should be considered in the management of patients who present scanty exudate in the pharynx, larynx, or nose, but who suffer from severe sepsis. In cases having diphtheritic membrane upon the post-pharyngeal wall the posterior surface of the uvula or the post-faucial pillars, we may conclude the source of their infection is in the vault, whether the faucial tonsils are diseased or not. Since it would be impossible to rhinoscope children having diphtheria, it is advised that a digital exploration be made, extreme care being urged to avoid abrasion of the mucous membrane. In case glandular enlargement is detected, it should receive the same medical attention that is given the involved tissues of the lower pharynx. In view of the above facts, it is insisted that all children having hypertrophied lymphoids should have surgical treatment.

#### TREATMENT OF ATROPHIC RHINITIS BY FORMALIN.

Dr. A. Bronner (Berlin), at the meeting of the British Medical Association, advocated the use of a 1-2000 solution of liquid formalin as a nasal wash. The first indication is to cleanse the nose and remove all crusts, and to effect this an alkaline lotion is employed. The second object is to alter the nature of the secretion of the mucous membrane, for which a solution of formal or formalin is advised in strength of 1-500 to 1-2000. He applies it by means of a small nasal syringe or a coarse spray. As it is somewhat painful, it should be used cautiously. In fetid rhinitis or ozena it has proved an effective deodorant. The after-treatment recommended consists of insufflating tannoform (a combination of the tannin and formalin) with boric acid.

## PROCEEDINGS OF SOCIETIES.

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### MEDICAL SOCIETY OF THE COUNTY OF KINGS.

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*713th regular meeting, held Tuesday evening, October 17, 1899,  
.. at Apollo Hall, 102 Court street.*

The President, Joseph H. Hunt, in the Chair.

The minutes of the previous meeting were read and approved.

#### REPORT OF COUNCIL.

The Council reported favorably upon J. Frederick Haller, Buffalo University, 1888.

#### ELECTION OF MEMBERS.

The following having been regularly proposed and favorably acted upon by the Council were declared elected to membership:

Edward C. Bennett, P. & S., N. Y., 1886.

Furman N. Nichols, N. Y. Med. Col., 1852.

John C. Hart, L. I. C. H., 1892.

Walter A. Sherwood, P. & S., N. Y., 1896.

#### APPLICATIONS FOR MEMBERSHIP.

Herman Fischer, 340 Hart street, P. & S., N. Y., 1896. Proposed by Membership Committee.

Frederick Lebrun Brady, 301 Henry street, Brooklyn, P. & S., N. Y., 1899. Proposed by Membership Committee.

Alex. L. Andrews, 527½ Sixth avenue, Brooklyn, L. I. C. H., 1898. Proposed by Membership Committee.

Frank H. Knause, 1094 Bushwick avenue, Brooklyn, Bellv. Med. Col., 1898. Proposed by W. B. Chase and D. Myerle.

#### SCIENTIFIC BUSINESS.

"A Modified Procedure for the Radical Cure of Varicosities

of the Internal Saphenous Vein."—Paper read by Russell S. Fowler.

"A Report of Thirty-one Cases of Typhoid Fever, Recently Treated in St. Mary's Hospital."—By John Harrigan.

"The Present Status of the Widal Test for Typhoid Fever" was given by J. M. Van Cott.

"The Clinical Value of the Widal Reaction," was the subject of a paper by Ezra H. Wilson.

Discussion by J. S. Waterman, H. A. Fairbairn, E. H. Bartley, Ezra H. Wilson and John Harrigan.

#### COMMUNICATIONS.

The Secretary presented a communication from the Committee on Public Health, respectfully requesting the influence of the Medical Society of the County of Kings in soliciting the privilege from the Board of Education of conducting examinations in a limited number of the public schools as to the percentage of school children defective in sight and hearing, and the influence of such conditions on their progress through the school system.

Dr. Fairbairn moved that the request be granted.

Seconded and carried.

The President then stated that he had completed the Committee of ten to investigate the method of treatment of pneumonia advocated by Dr. Elfstrom, and announced the full committee as follows:

H. A. Fairbairn,  
E. H. Bartley,  
Nathaniel Matson,  
J. M. Van Cott,  
Frank E. West,  
F. J. Wood,  
H. R. Maine,  
J. S. Waterman,  
George R. Kuhn,  
Gordon Hall.

#### NEW BUSINESS.

Dr. Raymond brought up the general question of the relation of physicians to the Coroner's office. He stated that there seemed to be an impression that fatal cases, not seen by the physician within twenty-four hours, were Coroner's cases; that considera-

ble doubt had been thrown on the question whether cases which were taken cognizance of and reported by physicians to the Coroner's office were in all cases strictly Coroner's cases; that a formal investigation had shown that the Coroner had no jurisdiction, except in cases where there was some suspicion of criminality, and that where a case occurred in a physician's practice and he was able to give an opinion, that he was justified in signing the death certificate. Dr. Raymond moved

That the whole subject be referred to the Committee on Legislation for investigation, and report as to what are, and what are not, Coroner's cases.

Seconded by Dr. Barber and carried.

Dr. Barber moved that the Committee be instructed to report on this matter at the December meeting.

Seconded and carried.

The President announced that the Associated Physicians of Long Island would meet at Center Islip on Saturday, October 21, 1899, and that a special train would leave the Flatbush Avenue Depot at 2.15 P.M., and that all members of the Kings County Society were invited to attend.

On motion, adjourned.

DAVID MYERLE,  
*Secretary.*

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### HISTORICAL DEPARTMENT.

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JOSEPH CHRISMAN HUTCHISON, M.D., LL.D.

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Among the surgeons of America who have not alone been honored, but held in high esteem, by their fellow-associates, and who have achieved an enviable distinction in the practice of the healing art, none stands out more conspicuously than Joseph C. Hutchison. Operations which were considered in his time extraordinary in the practise of surgery, are to-day performed by the general practitioner. Still, we must ever remember that the reason why we of to-day are able to do this work is simply because such men as Dr. Hutchison were in existence. "And I may say in this connection that it appears to the writer, so far as he has been able to observe, that the surgeons of America who

have done so much to place the science and art of surgery in a position by which it has been able to reach the place it occupies to-day, were men adapted by nature for that kind of work, as their medical college education consisted of but two or three years of study." Dr. Hutchison was born in Howard County, Missouri, February 22, 1827, and died in Brooklyn, N. Y., July 17, 1887. His father was Nathaniel Hutchison, M.D., of Booneville, Mo., and his mother Mary Chrisman of Virginia. In 1849 he married Susan H. Benedict of Farmington, Conn.; of the six children, N. Gerhard Hutchison, M.D., is best known to the profession, who died April 10, 1877, from diphtheria, contracted from a patient upon whom he had performed tracheotomy.

Dr. Hutchison was educated in the University of Missouri, from which he graduated, receiving the degree of LL.D. from the same institution in 1880. He began the study of medicine under the preceptorship of Drs. W. N. Gerhard and Edward Price of Philadelphia in 1845, graduating M.D. from the University of Pennsylvania in 1848, just after completing his twenty-first year of age, the subject of his essay being staphylorrhaphy. From 1849-53 he practised medicine in the State of Missouri, coming to Brooklyn, N. Y., in 1853, where he remained until his death.

During his professional life he was called upon to fill the following positions: Surgeon of Volunteers, 1863, appointed by Governor Seymour; 1854, Physician Brooklyn Cholera Hospital; 1853-55, Surgeon Brooklyn Dispensary; 1857-87, Visiting Surgeon Brooklyn City Hospital; Surgeon-in-Chief Brooklyn Orthopedic Infirmary; 1855-60, Consulting Surgeon Brooklyn Central Dispensary, Consulting Surgeon Long Island College Hospital, Consulting Surgeon Kings County Hospital, Consulting Surgeon St. Peter's Hospital, Consulting Surgeon St. John's Hospital; 1873-74, and '75, Health Commissioner, City of Brooklyn; 1860-67, Lecturer on Diseases of Women, University City of New York; 1860-67, Professor of Operative Surgery, Long Island College Hospital; 1886-87, President of the Collegiate Department Long Island College Hospital.

His connection with medical societies was as follows:

1858-87, Medical Society County of Kings; Orator, 1859; Assistant Secretary, 1859; President, 1864; 1871-80, Brooklyn Medical Journal Association; President, 1871-77; 1864-87, New York State Medical Society; President, 1866; New York Pathological Society; President, 1871; 1857-87, New York Academy

of Medicine; Vice-President, 1869-73; New York Surgical Society; New York Physicians' Mutual-Aid Association; Delegate to the American Medical Association from 1855-82; 1880-87, American Surgical Society, Vice-President, 1884; 1887, Kings County Medical Association; 1884-87, New York State Medical Association; Vice-President, 1884; President of the Fifth District Branch in 1885; Corresponding Member of the Boston Gynecological Society, and Honorary Member of the Connecticut and New Jersey State Medical Societies.

## INTERNATIONAL MEDICAL CONGRESS.

1867, Delegate of the American Medical Association at Paris; 1875, Delegate of the American Medical Association at Edinburgh; 1881, Delegate of the American Medical Association at London; 1876, Delegate of the New York State Medical Society at Philadelphia, Pa.; Trustee of Adelphi Academy; Director Long Island Historical Society; Member of the Hamilton and Century Clubs.

His contributions to medical science were as follows:

1860, "Case of Exsection of Portions of the 8th, 9th, and 10th Dorsal Vertebrae;" 1864, "A Case of Epithelial Cancer—Plastic Operation;" 1859, Address—"City Hospital;" 1864, Address—"Graduates of the Long Island College Hospital;" 1867, Address—"The Moral Power of the Profession;" 1869, "Acupressure"—Prize Essay; 1871, "Physiology and Hygiene." 12mo. for school use; 1884, "The Laws of Health." 12mo. for school use; 1880, "Lectures on Orthopedic Surgery," 12mo.; 1882, "Etiology, Pathology, Diagnosis, and Treatment of Morbus Coxarius;" 1883, Division of the Femur for an Ankylosis at the Hip-joint;" 1884, "A New Apparatus for Transfusion of Blood and Other Fluids;" "Dislocation of the Femur into the Ischiatic Notch;" "Removal of the Upper Maxillary;" Excision of the Entire Ulna;" "Ligation of the External Iliac Artery;" "Rapid Lithotritry;" Treatment of Femoral Aneurism."

WILLIAM SCHROEDER, M.D.,  
*Secretary of Historical Committee.*

## MEMORIAL TABLET TO C. N. HOAGLAND, M.D.

Miss Luella J. Hoagland has had placed in the vestibule of the Hoagland Laboratory a memorial tablet to her father, Cornelius



Nevius Hoagland, M.D., a photograph of which we reproduce in this issue of the JOURNAL. The sculptor was J. Scott Hartley of New York, and the casting was made by the Gorham Manufacturing Company. Physicians and others desirous of inspecting the tablet will receive a cordial welcome.

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#### LAWRENCE SWAN WOODHULL, M.D.

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Young in years, and with a bright future before him, our former associate was called upon to complete his work for suffering humanity, and join the great majority. It seems hard to understand, but such is human life. He was born at Huntington, L. I., on August 1, 1874, and died in Brooklyn, June 8, 1899.

His father was Caleb Smith Woodhull, of Comac, L. I., and his mother Fanny Dean Fish of Mystic, Conn.

Dr. Woodhull was married to Miss K. Elizabeth Towner July 29, 1896.

His education was received at the Brooklyn Latin School, Polytechnic Institute, and Williams College.

He began the study of medicine in the City of Brooklyn, in 1893, with Joseph H. Raymond, M.D., as preceptor, and matriculated with the Long Island College Hospital, receiving the degree of M.D. in 1896; entering upon the practice of medicine in this city and remaining until his death. Connecting himself with the medical Society, County of Kings, in 1897, ill-health caused him to resign January 18, 1899.

WILLIAM SCHROEDER, M.D.,  
*Sec. of the Hist. Com.*

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#### CORNELIUS HANFORD SCHAPPS, M.D.

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It is not often that we are called upon to make record of one, who for fifty-nine years practised the healing art, thereby connecting the past with the present. Dr. Schapps was born in the City of New York, July 20, 1817, and called to rest in the same city, September 1, 1899. His father, Cornelius Schapps, was born in Holland, and his mother, Elizabeth Hanford, in Norwalk, Conn.

On April 18, 1842, he married Miss Jane Stewart Carpenter of New Utrecht, L. I., a daughter of the late Dr. John Carpenter,

one of the organizers and first treasurer of the Medical Society, County of Kings. The children now living are John Carpenter Schapps, M.D., Margrate C., Jane A. S., Marian C., and Helen R.

Dr. Schapps was educated at the University of the City of New York, and began his medical studies at the Yale Medical School; in 1840 he was licensed to practise medicine by the New York State Medical Society, receiving the Honorary degree of M.D. from the Regents of the University, State of New York, in 1872.

Commenced private practice in Perth Amboy, N. J., in 1840, removing to the City of Brooklyn in 1849, where he continued until the time of his death. For a number of years he was a member of the Brooklyn Board of Education, and Physician to the Eastern District Industrial School. In 1861 he connected himself with the Medical Society, County of Kings, remaining in active membership until 1882. He was one of the organizers of the Williamsburgh Medical Society in 1852, being its first president, and continued in office until 1855, when this society was merged into the Medical Association of the Eastern District in 1863; he became an active member and held the office of President in 1869-70. He was one of the organizers of the Free Library Association and the Truant Home, and for many years a member of the South Third Street Presbyterian Church.

WILLIAM SCHROEDER, M.D.,  
*Sec. of the Hist. Com.*

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### JAMES FITZGERALD FEELEY, M.D.

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One of the best-known surgeons of the Eastern District of Brooklyn has been called to rest. Dr. Feeley was an active member of the medical profession, respected by all who had the pleasure of his acquaintance, for his honesty of purpose and his upright character. He was born in London, England, April 12, 1844, his grandfather, Michael, and his father, John Feeley were both of Ireland, and his mother, Elizabeth Hart, of London, England.

Dr. Feeley was married to Miss Minnie Louise Quinn of Halifax, N. S., November 14, 1879. One son was born, William H. P. Feeley.

Dr. Feeley was educated in the Williamsburgh Institute and the Polytechnic Institute of this city.

The study of medicine, under the preceptorship of Drs. Thomas and Dougherty of New York, in 1861, was completed in the University of the City of New York, where he received the degree of M.D. in 1865. For a few years he practised medicine in the City of New York, and came to Brooklyn in 1867, remaining during his professional life.

Dr. Feeley was Assistant Demonstrator of Anatomy in the Medical Department of the University City of New York from 1869-74; Surgeon to the Williamsburgh Dispensary, 1865-68, and Visiting Surgeon St. Catherine's Hospital, Brooklyn, 1875-99.

A member of the Medical Society, County of Kings, from 1879 to '85; New York Physician's Mutual Aid Association, Kings County Medical Association, New York State Medical Association, and one of the founders of the Brooklyn Surgical Society in 1887. He was an active member of the Hanover Club, Society of Old Brooklynites, and Welcome Council, No. 70, R. A.

His medical papers consisted of "Obstruction of the Large Intestine" in 1888, and "Loose Cartilages in Joints" in 1887.

He died in Brooklyn, N. Y., August 30, 1899.

WILLIAM SCHROEDER, M.D.,  
*Sec. of the Hist. Com.*

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### WILLIAM HENRY CAEMMERER, M.D.

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We record here the life-work of the last of those German physicians who came to this country in 1848, "that is of those that located in the Sixth and Tenth wards of this city;" during the fifty-odd years that he practised the healing art in our city, he had made many friends, and was respected for his upright character as a man and physician.

He was born in Tranguebar, East India, August 31, 1821, and died in Brooklyn, N. Y., August 30, 1899. His father, the Rev. A. D. Caemmerer, was a native of Germany, and his mother, Sophie, of East India.

Dr. Caemmerer was prepared for college in the schools of Koenigberg Halle, and London, England. In 1842 he entered upon the study of medicine, and graduated M.D. from the University of Jena in 1847. He then visited the hospitals in Vienna and Prague, coming to this country in 1848, and located in

this city. For a few years he was surgeon on board the steamer "Hermann," and from 1850 to 1866, he was examining physician to the Commissioners of Emigration, and Assistant Sanitary Inspector, Health Department, from May 31, 1873, to July 1, 1873.

In 1857 he married Cecilia von Hein of New York. As a result of this union, the following children were born: Alfred, Cecilia B., and William H. Caemmerer. The doctor was a member of the Medical Society, County of Kings from 1872 to 1887.

WILLIAM SCHROEDER, M.D.,  
*Sec. of the Hist. Com.*

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#### GEORGE WILLIAM NEIDECKER, M.D.

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In recording the death of Dr. Neidecker, it is simply to again express that which has been stated on many occasions before. He was young in years, full of life, with a bright future before him. He was born in Cleveland, Ohio, in 1861; was prepared for college in his native city, and graduated from Capital University, of Columbus, Ohio.

He immediately began the study of medicine at Port Clinton, Ohio, under the preceptorship of Paul B. De La Barre, M.D. Coming East, he matriculated with the Long Island College Hospital, receiving the degree of M.D. in 1889. During the years 1889-90 he was interne in the hospital. Dr. Neidecker practised medicine in this city from 1890 to the time of his death, July 17, 1899. During the years 1891 and '92 he was a member of the Medical Society, County of Kings.

WILLIAM SCHROEDER, M.D.,  
*Sec. of the Hist. Com.*

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#### NEW YORK SKIN AND CANCER HOSPITAL.

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The Governors of the New York Skin and Cancer Hospital announce that Dr. L. Duncan Bulkley will give a second series of clinical lectures on diseases of the skin in the Out-patient Hall of the Hospital on Wednesday afternoons, commencing November 1, 1899, at 4.15 o'clock. The course will be free to the medical profession.

## MISCELLANEOUS.

### INTRAPELVIC ADHESIONS.

BY WALTER B. CHASE, M.D.

Abstract of paper read at meeting of American Association of Gynecologists and Obstetricians, Indianapolis, Sept. 19 to 22, 1899.

In standard text-books on gynecology very little space has been devoted to the distinctive topic of intrapelvic adhesions, and it is surprising to find how little notice on the whole it has received from writers on gynecology and abdominal surgery. It would seem that their importance would entitle them to more study. Any surgeon of experience can recall not a few cases in which adhesions were the principal factors of trouble, often only revealed on opening the pelvic cavity. The symptoms sometimes are apparently out of all proportion to the gravity of the condition existing. Other things being equal, diagnoses are easier made in the female than in the male, and in those having thin and non-rigid abdominal walls. Localized abdominal rigidity has a special significance in appendicitis, ovaritis, and other acute inflammations affecting the pelvic viscera.

The character of the adhesions likely to be formed will vary according to the variety of inflammation producing them. Their plasticity and extent will be dependent on the dyscrasia of the patient, and the proximity of the period of their formations. Recent adhesions lack the strength and resistance of older ones; and the friability of those formed in the presence of septic, tubercular, and malignant conditions, is marked. In making the diagnosis use anesthesia if necessary, determine the mobility in every direction of the pelvic contents as far as is consistent with conservative manipulation, and examine the patient by percussion and manipulation in the horizontal, upright, knee-chest, and Trendelenburg posture. Too forcible handling of the parts must be avoided as dangerous, and on the contrary careless or superficial examinations will fail to differentiate easily determinable conditions. A careful logical study of the antecedent history affords valuable information. From what previous inflammatory conditions has the patient suffered? What sequelæ are due to pregnancy, sepsis, tu-

berculosis, and syphilis? And has traumatism been a factor? If still in doubt, resort to abdominal or vaginal section may be needful and conservative.

The deleterious influences arising from the presence of intra-pelvic adhesions are numerous and complex, being partly functional and partly mechanical. Constipation, due to narrowing the lumen of the gut, angulation, and impaired peristalsis, is far-reaching in its effects. Nervous disturbances, due to ovarian adhesions, and cystic irritability from bladder adhesions, are more or less frequent.

The adhesions may be limited to a single band or be so extensive as to amalgamate all the pelvic structures. What shall be done with them? Sometimes the surgeon will let them alone, and again their vicious influences will be the signal for their attacks surgically. Where their presence is general it is obvious their obliteration is outside the limit of conservative surgery. Yet in cases not a few, the removing of tension at some one point will afford measurable relief. The adhesions most difficult to manage cover in old abscesses, hold in position intraligamentous growths, or connect living placenta and intestines, following the rupture of ectopic gestation.

To prevent the development of adhesions, one must, naturally, prevent the occurrence of their antecedent septic and inflammatory process. To retard their development two drugs have been long known—potassium iodide and mercurials, and to them another must be added—gold and sodium chloride.

The Brandt method of pelvic massage claims recognition, and is undoubtedly useful. In the surgical treatment of adhesions *per se* the danger is twofold—the difficulty of controlling the hemorrhage, and the liability of new adhesions forming from the exposed raw surfaces remaining. To control the hemorrhage, tying or torsion, or when this is impossible, pressure and the application of hot water; or occasionally permanent pressure by gauze packing. We have encouragement for the future in the use of Dr. Skene's Electro-hemostatic method. To prevent the formation of new adhesions, leave as little raw surface as possible, use absorbable ligatures, and wash what raw surface cannot be covered with normal salt solution.

## METAPHYSICAL HEALING.

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A correspondent in another column makes as strong a case as, in our judgment, can be made for the doctrine that Christian Scientists should be allowed by the State to practice their healing art on the hypothesis that disease is only a mortal thought and can be cured by thinking. The question thus raised is a large one, and involves the whole problem of the relation of law to liberty.

In most modern communities the principle is recognized that the State has a right to regulate all employments which, for any reason, involve a hazard to the community. On this principle the State, at least in many cases, regulates the sale of dynamite, gun-powder, poisons, and alcoholic liquors; on this principle it forbids men to practice law or medicine, to put up drugs for the sick, or to act as pilots or engineers, without previous special education and training, attested by an official examination. In our judgment, these prohibiting provisions might well be extended to plumbers and motormen, perhaps to other employments. We see no reason why Christian Scientists should claim exemption from this general principle of law.

In New York State, to practice the healing art a course of special instruction is required by law, which necessitates ordinarily three years at the least. The curriculum in the Christian Science College, when there was one, lasted three weeks and involved twelve lessons of one half-day each. Mrs. Eddy informed the public that "persons contemplating a course at the Massachusetts Metaphysical College can prepare for it through no books except the Bible and 'Science and Health with Key to the Scriptures.'" Ought the State to allow any one to set up as a healer on the basis of twelve lessons, occupying three months, and embracing only two books? We reply unhesitatingly in the negative.

Suppose a Mormon were to set up as a pilot, claim divine guidance, and insist on his right to take steamships in and out of New York harbor on the strength of his proficiency in the Book of Mormon, would it be a violation of the liberty of the individual to prohibit him, and to put him in jail if he persisted? Yet the danger to the community from incompetent pilotage of an ocean steamer would not be so great as the peril from incompetent treat-

ment of certain contagious diseases. Nor does this beg the question of assuming that Christian Science is incompetent treatment. We do not assume that it is incompetent; we assume that the community has a right to determine whether it is competent or not.

Nor does this position deny the right of a Christian Scientist to go without a doctor, or even to avail himself of a mental healer. It denies the right of the mental healer to practice his mental healing as a profession, for pay. And it is idle to assume, as is sometimes done, that the mental healers do not practice mental healing for pay. Mrs. Eddy tells us that pay is itself a help in the healing. "Christian Science," she says, "demonstrates that the patient who pays whatever he is able to pay for being healed is more apt to recover than he who withholds a slight equivalent for health." The healer prescribes no drug for the patient, but he prescribes a fee for himself.

Nor does the fact that the mental healer prescribes no drug take him out of the category of professional physicians. The practice of medicine does not consist in the prescription of drugs. In many cases no drugs are prescribed. The practice of medicine consists in a knowledge of the body and the laws which regulate the functions, and of such counsel to the patient based on that knowledge as will enable him to comply with those laws. Sometimes it involves prescription of medicine to aid; sometimes it consists wholly of advice what food to eat and what bodily habits to maintain. Any one who undertakes for pay to heal disease is a medical practitioner, whether he administers drugs or not, whether he calls himself allopath, homeopath, eclectic, or mental healer, whether he calls the trouble which he is called in to remedy a disease or a mortal thought.

We hold, then, that the State has a right and a duty to determine, by such tests as it chooses to prescribe, who is competent to practice the healing art, and that mental healers ought not to be permitted to practice mental healing as a profession and for pay until they can persuade the community that disease is a mortal thought and that it is an adequate remedy to pay the healer's fee and think unmortal thoughts. Even then such mental practitioners should be required to pursue such courses of study and submit to such tests as the community chooses to prescribe—*The Outlook*.



## DISPENSARY RULES AND REGULATIONS.

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At a stated meeting of the State Board of Charities, held at its office in the Capitol, Albany, on the 11th day of October, 1899, the following Rules and Regulations, in accordance with which all dispensaries shall furnish and applicants obtain medical and surgical relief, advice, or treatment, medicine or apparatus, were adopted pursuant to Section 21 of Chapter 368, Laws of 1899.

WILLIAM R. STEWART,  
*President.*

Attest:

ROBERT W. HEBBERD,  
*Secretary.*

### I.

#### *Posting a Public Notice.*

There shall be posted and permanently maintained in a conspicuous place in the reception-room for applicants a notice substantially as follows:

This Dispensary has been licensed under the laws of the State of New York by the State Board of Charities, to furnish medical or surgical relief, advice, or treatment, medicine or apparatus to the sick poor who are unable to pay for the same. The law provides as follows:

(Section 25, Chapter 368, Laws of 1899.)

Any person who obtains medical or surgical treatment on false representations from any Dispensary licensed under the provisions of this act, shall be guilty of a misdemeanor, and on conviction thereof shall be punished by a fine of not less than ten dollars and not more than two hundred and fifty dollars.

(Imprisonment until the fine be paid may be imposed. Code Crim. Pro., § 718.)

II.

*The Registrar.*

There shall be an officer to be known as "The Registrar," whose duty shall be to supervise the work of the Dispensary, make and preserve all records, receive all applicants, and see that all rules and regulations are enforced.

III.

*The Admission of Applicants.*

1. It shall be the duty of the Registrar to examine all applicants to determine the question of their admission, and the following rules shall guide his actions: (a) All emergency cases shall be admitted and receive prompt treatment and care. (b) Every applicant who is, in the opinion of the Registrar, after examination and personal inquiry, poor and needy, shall be admitted. (c) Every applicant in regard to whose ability to pay for medical or surgical relief, advice or treatment, medicine or apparatus, or either in whole or in part the Registrar is in doubt, shall be admitted to a first treatment on signing the admission-card, but the Registrar shall forthwith cause an investigation of his financial condition to be made, the results of such investigation shall be filed among the permanent records of the dispensary. (d) Every applicant who declines to sign the required declaration shall be refused admission.

On the admission of an applicant to a Dispensary the Registrar shall file a card in the following form:

Name..... Date.....  
 Dr.....No. in family.....  
 Nationality..... Address.....  
 Occupation, Man..... Woman.....  
 Income..... Rent.....  
 This is my....application to this Dispensary in the year.....  
 I have been an applicant to no other Dispensary in the year  
 .....(or to the following Dispensaries.....)  
 Admitted..... Refused.....  
 The foregoing statement is in all respects true.  
 Signature of applicant.....

3. The Registrar shall issue to every applicant who signs an admission-card, a pass-card on one side of which shall be printed the usual information in regard to attendance upon the class to which he or she is assigned and on the other side the card shall be the form following:

*Penalty for False Representations.*

Section 25, Chapter 368, Laws of 1899.

Any person who obtains medical or surgical treatment on false representations from any dispensary licensed under the provisions of this act, shall be guilty of a misdemeanor, and on conviction thereof shall be punished by a fine of not less than ten dollars and not more than two hundred and fifty dollars.

(Imprisonment until fine be paid may be imposed. Code Crim. Pro., § 718.)

IV.

*The Matron.*

There shall be a Matron whose duty it shall be, under the direction of the Registrar, to preserve cleanliness and good order in all parts of the Dispensary, and be present during gynæcological examinations and operations; no such examination shall be made of, or operation performed on, any female patient excepting in the presence of the Matron or of a woman detailed for such duty.

*Contagious Diseases Excluded.*

The following contagious diseases shall not be treated in any Dispensary not devoted to the treatment of contagious diseases, *viz.*: Smallpox, scarlet fever, measles, diphtheria. When a person suffering from any one of these diseases shall apply for treatment to any Dispensary, the Registrar shall take immediate measures to prevent the exposure of other persons in the Dispensary, and shall forthwith report the case to the proper health authority.

VI.

*Instructions in Dispensaries.*

Managers may make needful rules and regulations for clinical, secular, and religious instruction in their respective Dispensaries, but in no instance shall any applicant be required to attend such

instruction as a condition on which he or she can receive medical or surgical relief at the Dispensary. No applicant shall be required to submit to an examination, oral or physical, for other purposes than his or her proper medical or surgical treatment without his or her full and free consent; in the case of an infant, the consent of the father, mother or guardians, must be obtained for the purpose above mentioned.

## VII.

*The Apothecary.*

The Apothecary must be licensed under the laws of the State or be a graduate of a regularly incorporated medical college. If employed in public service the Apothecary must be appointed under Civil Service rules.

## VIII.

*Sanitary Inspections.*

The Managers shall make a written request, at least quarterly, to the local health board to have an official inspection of the entire premises of the Dispensary made, unless such inspection has been made during that period, and enter such request in its minutes and file a copy of the report of the health board in its office. All orders of the health board must be promptly complied with.

## IX.

*Arrangements and Equipment.*

Each dispensary shall provide: 1. Seats for all applicants. 2. Arrangements for the separation of the sexes in both waiting- and treatment-rooms, except in cases of family groups and of infants. 3. Such equipment in the matter of rooms and supplies as will secure the best results of treatment.

## DEMONSTRATIONS IN PHYSIOLOGY IN THE LONG ISLAND COLLEGE HOSPITAL.

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The following demonstrations have been arranged by Dr. J. C. Cardwell, Demonstrator of Physiology in the Long Island College Hospital.

### ELEMENTARY COURSE FOR FRESHMEN.

#### *A. Physiology of Nutrition.*

DIGESTION.—(1) Saliva, collection and examination of. (2) Gastric juice, collection and examination of. (3) Pancreatic juice and bile, collection, and examination of. (4) Movements of the alimentary canal.

ABSORPTION.—(5) Absorption of carbohydrates and fats. (6) Absorption of proteids and salts.

CIRCULATION AND BLOOD.—(7) Circulation in web of frog's foot: arteries, capillaries, veins. (8) Heart-beat, phenomena of (frog; turtle). (9) Coagulation of blood, phenomena.

RESPIRATION.—(10) Respiratory movements, mechanism of. (11) Respiratory movements, methods of registration. (2) Changes in blood during respiration.

#### *B. Physiology of the Nerve-system.*

(1) Reflex action, phenomena (frog). (2) Cerebrum, effects of removal (frog; pigeon). (3) Cerebellum, effects of removal (frog; pigeon). (4) Cervical sympathetic, effects of section (rabbit).

### ADVANCED COURSE FOR SOPHOMORES.

#### *A. Physiology of Nutrition.*

DIGESTION.—(1) Salivary digestion, process and conditions. (2) Gastric digestion, process and conditions. (3) Intestinal digestion, process and conditions.

METABOLISM.—(4) Metabolism, methods of study; general metabolism. (5) Proteid metabolism. (6) Carbohydrate and fat metabolism.

CIRCULATION.—(7) Blood pressure, phenomena and factors.

(8) Pulse, phenomena and methods of study. (9) Heart-beat, nervous mechanism of. (10) Heart-beat, nervous mechanism of.

RESPIRATION.—(11) Gases of the blood, methods of isolation and study. (12) Respiration, nervous mechanism of.

### *B. Physiology of the Nerve-system.*

MUSCLE AND NERVE.—(1) Muscle-nerve apparatus, preparation and methods. (2) Irritability and conductivity of nerve. (3) Independent irritability of muscle. (4) Muscular contraction, phenomena. (5) Muscular contraction, electrical phenomena of. (6) Nerve impulse, electrical phenomena of. (7) Nerve impulse, determination of rate of. (8) Effects of variation in rate, number, and kind of stimuli. (9) Fatigue; phenomena.

CENTRAL NERVE-SYSTEM.—(10) Cerebral cortex, functional localization (motor). (11) Cerebral cortex, functional localization (sensory). (12) Reflexes, study of (man). (13) Touch, taste, smell, phenomena. (14) Vision, phenomena. (15) Hearing, phenomena. (16) Reaction-times.



### A BACTERIOLOGICAL TRAGEDY.

A gay Bacillus, to gain him glory,  
Once gave a ball in a laboratory.  
The fête took place on a cover-glass,  
Where vulgar germs could not harass.  
None but the cultured were invited  
(For microbe cliques are well united),  
And tightly closed the ball-room doors,  
To all the germs containing spores.  
The Staphylococci first arrived—  
To stand in groups they all contrived.  
The Streptococci took great pains  
To seat themselves in graceful chains.  
While somewhat late, and two by two,  
The Diplococci came in view.  
The Pneumococci, stern and haughty  
Declared the Gonococci naughty,  
And would not care to stay at all  
If they were present at the ball.

The ball began, the mirth ran high,  
 With not one thought of danger nigh.  
 Each germ enjoyed himself that night,  
 With never a fear of the Phagocyte.  
 'Twas getting late (and some were "loaded")  
 When a jar of formalin exploded,  
 And drenched the happy, dancing mass  
 Who swarmed the fatal cover-glass.

Not one survived, but, perished all  
 At this Bacteriologic ball.

—J. Lee Hagadorn, M.D., Los Angeles, in *Southern California Practitioner*.

## TREATMENT OF BURNS.

The following prescriptions containing ichthyol are recommended by Leistikow for burns of the first and second degree:

### BURNS OF THE FIRST DEGREE.

℞ Zinc oxide.....20 parts  
 Magnes. carb.....10 parts  
 Ichthyol .....1 to 3 parts

This powder, containing ichthyol, is the most satisfactory form in extensive burns of the first degree, and should be plentifully applied, being spread evenly over the surface.

### BURNS OF THE SECOND DEGREE.

In extensive burns of the second degree a soft paste like the following is preferable:

℞ Carbonate of lime.....10 parts  
 Zinc oxide.....5 parts  
 Oil .....10 parts  
 Lime water.....10 parts  
 Ichthyol .....1 to 3 parts

## BURNS LIMITED TO RUBEFACATION OR VESICATION.

Nolda recommends the following:

- ℞ Europhen .....1 part  
 Vaseline  
 Lanolin, of each.....10 parts

This is applied three or four times a day to burns limited to rubefaction or vesication.

## EXTENSIVE BURNS.

The following may be used in the treatment of extensive burns:

- ℞ Aristol .....1 part  
 Sterilized olive oil .....2 parts  
 Vaseline .....8 parts

Around the edges of the burns, after the ointment is spread, the aristol in powdered form is dusted. In burns of small extent the powder form only is employed. Cleanliness must be thorough whenever the dressing is changed. One of its great advantages is its freedom from poisonous effects. There is some smarting at first, but it soon passes off.—*Walton, N.Y. Med. Record.*

## REMARKABLE INSTANCES OF HIGH TEMPERATURE.

Several instances of very high temperature of the human body have from time to time been reported, in one case as high as 125° F., but they have been regarded with a good deal of scepticism on the part of many who have read of them. In a paper read before the Arkansas Medical Society and reported in the *New York Medical Record*, is a case of cerebral meningitis in which the axillary temperature was 118°. It varied from 110° to 118° for eleven days, and death occurred twelve days later. The record was verified by the use of five thermometers.



## NEW BOOKS AND BOOK NOTICES.

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*All books received by the JOURNAL are deposited permanently in the Library of the Medical Society of the County of Kings.*

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**MATERIA MEDICA. THERAPEUTICS, MEDICAL PHARMACY, Etc., Etc.** A Manual for Students and Practitioners. By William Schleif, Ph.G., M.D. One of Lea's Series of Pocket Text-Books. 12mo, 354 pages, \$1.50. Lea Brother & Co., Philadelphia and New York.

That tells the whole story. If the title had been "Of Materia Medica," it would have been more appropriate. For the student it was undoubtedly written. It reads like a transcript from a note-book, and that a very concise one.

**ANNUAL AND ANALYTICAL CYCLOPEDIA OF PRACTICE OF MEDICINE.** By Charles de M. Sajous, M.D., and One Hundred Associate Editors, Illustrated with chromolithographs, engravings and maps. Vol. III. F. A. Davis & Co., publishers.

This is a volume of great interest and value. The general practitioner, author, and teacher will add it to their libraries if they will take the trouble to examine into its contents.

As we turn the pages we meet with a well written article on "Fatty Degeneration of the Heart." The whole subject is presented in a very attractive form, but on the last page we find one of those ready-made formulæ. We do not question its value, but we do question the propriety of publishing to the world such combinations. The tablet triturate companies, together with some other firms, are furnishing just such prescriptions by the hundreds. They are issuing well bound catalogues of them, with symptoms described for which they are intended. Patients have discovered this, and are buying both catalogue and remedies. They are receiving an education in a misconception, viz., that the practice of medicine is a free and easy game. At some future day, if the fashion continue, we may find the practitioner making his rounds with a package of antidotes, prepared to undo the work of catalogue and powerful drugs. The use of drugs ought to be based on most certain knowledge of a condition. People at large are apparently coming to think differently. Given the name of a disease, they have been led to think that the remedy stands already prepared as a corollary. Professors, and books of the high character of the one in question, are the instruments to combat the fallacy.

Doctor Eskridge contributes a very clear and useful article on that condition denominated hysteria. No term is used more freely and absurdly than it. The hysterical cat, bird, and infant have each been described and reported in the medical press. The victim of a railroad accident has had his case damned in the courts by the injudicious and unfair use of the term. The line of demarkation between the true condition and the accidental manifestations of the symptoms is well drawn

and worthy of study. A suggestion to abolish the nonsensical term entirely would have been much to the purpose. The conditions it is used to describe are clean cut and demonstrable. Such a term, however, is far from indicating the fact. The illustrations in this volume are very fine, particularly those in the articles on hernia and hip-joint disease. Editors, authors and publishers deserve the thanks of the profession for this very excellent work.

THE INTERNATIONAL MEDICAL ANNUAL AND PRACTITIONERS' INDEX. E. B. Treat & Co., New York. 1899. Seventeenth year.

This book has a well established reputation. The present edition is up to date and well illustrated. It is a valuable reference book, exhibiting a large amount of practical work which has been done in almost every department of medicine and surgery during the past year.

A TEXT-BOOK OF PHARMACOLOGY AND THERAPEUTICS, or The Action of Drugs in Health and Disease. By Arthur R. Cushing, M.A., M.D. Lea Brothers & Co.

This book gives the present standpoint of knowledge of such bodies as are of therapeutic or toxicological interest, and also of those which, possessing in themselves no immediate interest in practical medicine, have thrown important light on biological problems, and are accordingly likely to be referred to in scientific literature. The work is well done. It will be well received.

THE HYGIENE OF TRANSMISSIBLE DISEASES: Their Causation, Modes of Dissemination, and Methods of Prevention. By A. C. Abbott, M.D., Professor of Hygiene, University of Pennsylvania. Illustrated. Philadelphia: W. B. Saunders. 1899. Pp. 311.

One of the greatest achievements of the bacteriologist has been to place sanitation on the basis of a science; and of recent years a want has been felt for just such a work as that which Dr. Abbott now presents to us. A work which will serve as a text-book to the student of hygiene, a valuable addition to the armamentarium of the general practitioner, and an invaluable aid to the sanitary official. The special value of such a work lies in its application to the highest aim of modern science—preventive medicine. It also emphasizes the fact, as stated by the author, that the teacher in this department should be one who has been thoroughly trained in each of its branches, and in general to a degree that will enable him to comprehend the application of bacteriology to sanitary science.

The first section of the book is devoted to the discussion of the causation of disease; and the various factors, both predisposing and exciting, are treated of in a thorough and comprehensive way.

The second section treats of the transmissible diseases, and constitutes the body of the work. The text is well arranged, excellently written, and thoroughly up to date. The illustrations are well chosen and well executed. The third section deals with prophylaxis against infectious

diseases. This includes the consideration of natural and acquired immunity, vaccination and protective inoculation, disinfection and the management of quarantine. The various theories regarding immunity are clearly set forth and discussed. The part devoted to disinfection is concise, and only the approved methods are described. The article on quarantine is practically a description of the methods employed by the United States Marine Hospital Service.

E. H. WILSON.

**AN AMERICAN TEXT-BOOK OF DISEASES OF THE EYE, EAR, NOSE, AND THROAT.** Edited by A. E. De Schweinitz, A.M., M.D., Professor of Ophthalmology in the Jefferson Medical College, Philadelphia; Consulting Ophthalmologist to the Philadelphia Polyclinic; Ophthalmic Surgeon to the Philadelphia Hospital, and to the Orthopedic Hospital and Infirmary for Nervous Diseases, and B. Alex. Randall, M.A., M.D., Ph.D., Clinical Professor of Diseases of the Ear in the University of Pennsylvania; Professor of Diseases of the Ear in the Philadelphia Polyclinic; Ophthalmic and Aural Surgeon to the Methodist and Children's Hospitals, Philadelphia. Illustrated with 766 engravings, 59 of them in colors. Philadelphia. W. B. Saunders, 925 Walnut street. 1899.

It was a difficult task to comprise within the limits of a single volume all the essentials which ought to be understood by physicians who treat diseases of the eye, ear, nose, and throat. However, the names of the editors and their collaborators were sufficient to guarantee a successful execution of the plan, and the result has not been disappointing. Inasmuch as ophthalmology may very properly be considered a branch of neurology the volume begins with a short sketch of the nervous system. The remainder of the section is devoted to the embryology, anatomy, and histology of the eye.

"General Optical Principles" is the title of one of the following chapters. The subject is ably treated at a considerable length. Although the work is of a highly scientific character yet many of the mathematical formulas are too abstruse to be of much practical value to the majority of readers.

Chapter on "External Examination of the Eye" was written by De Schweinitz. Complete details are carefully explained. "The Ophthalmoscope and Its Uses," by Randall, is a scholarly and also a very practical treatise.

Theobald has an instructive chapter on "The Diseases of the Lachrymal Apparatus." In the enumeration of causes of dacryocystitis and stricture of the duct, no mention is made of diseased teeth.

Weeks' article on "Diseases of the Conjunctiva" is probably one of the most comprehensive treatises on the subject to be found in ophthalmological literature.

Burnett has condensed volumes on diseases of the cornea, into a single

sentence: "Defective general nutrition is apt to be felt early in the cornea as a tissue far from the base of supplies."

Knapp, in a brief chapter, describes the technic of operations on the iris, lens, and capsule. It is to be regretted that such an eminent authority was not allotted more space in this volume.

Randall has an instructive chapter on the "Anatomy, Embryology, and Histology of the Ear." Many of these practical points regarding anatomical relations should be kept in mind when operating on the mastoid.

The article by Holmes on "Etiology and Pathology" is of much value not only to the specialist but also to the general practitioner, for it is surprising how many general diseases are more or less complicated with aural affections.

Sheppard has explained, in a very thorough and systematic manner, the details necessary for examination of ear patients.

On page 676, reference to Fig. 467 is probably meant for Fig. 466. Blake's short chapter on "General Therapeutics of Ear Affections" will be read with much interest.

The great majority of readers will doubtless heartily agree with Dench in the opinion that the term chronic *catarrh* of the middle ear has led to a misunderstanding regarding the actual pathological changes which occur in cases of "O. M. P. C." Chronic suppuration of the middle ear, like the poor, we have always with us. Buck's wide experience in otology gives special value to whatever he has to say regarding the treatment of these troublesome cases. Alderton's "Static Goniometer" is an ingenious device for estimating disturbances of equilibrium.

The subject of "Operations" was wisely assigned to Greene of Boston. He emphasizes the "necessity of operating early in intracranial disease."

This work is a golden mean between the compend and the cyclopedia and will be found to be valuable not only to the specialist, but also to the general practitioner.

JAMES W. INGALLS.

### PART III. THE NOSE AND THROAT.

This subject is treated in 20 chapters. The first two describe the anatomy and physiology of the upper air-passages; three are devoted to general considerations of the methods of examination and diagnosis of diseases of this region, their etiology, pathology, prognosis, and treatment; a chapter is allotted to the production and hygiene of the voice. The remaining articles deal with special diseases of the nose and throat. Many of the monographs are of scientific value, as would be guaranteed by a list of such able contributors; but like most composite works, this contains considerable repetition which, it would seem, might be avoided by more careful co-operation. The chapter on "Therapeutics and Prognosis," contains only facts that are of necessity restated in the treatments of the individual diseases. Diphtheria is twice discussed; in the article by Dr. W. E. Hopkins on "Acute Affections of the Larynx" and in the excellent chapter on "Diphtheria of the Upper Air-passages," by Dr. J. H. McCollom. The first author describes "Croupous Laryngitis or Membranous Laryngitis," and says: "Perhaps the weight of modern evidence tends to the belief that croupous laryngitis is a local affection, with some general

disturbance; while diphtheria is a general systemic disease with local expression. The literature on the subject is most confusing." The second author, 20 pages beyond, states that: "The term membranous croup is a misnomer, and is a relic of past ages. No such disease as distinguished from diphtheria exists, and the term should be erased from the nomenclature." These two conflicting statements are noted by the editor, but they would prove perplexing to the student. A separate chapter is given to "Atrophic Rhinitis," which subject might advantageously have been included in the too-brief chapter by Dr. Asch on "Chronic Affections of the Nose."

The initial article, on anatomy, deserves special notice, not alone for its descriptive value, but because it was in part written by the late lamented Dr. Harrison Allen, who occupied an unique position as a comparative anatomist, and was universally regarded as an authority upon the structure of the nose and throat.

"Neoplasms and Neuroses of the Upper Air-passages" are treated in two chapters by Dr. Jonathan Wright in a thorough and masterly manner, and warrant most careful study. Dr. E. L. Shurley contributes a very helpful paper on "Laryngeal Tuberculosis." His description of its pathological anatomy is a word-picture that cannot fail to impress the reader and to elucidate the diverse tissue changes which this disease presents to the laryngologist.

W. F. DUDLEY.

**A MANUAL OF DISEASES OF THE NOSE AND THROAT.** By C. G. Coakley, A.M., M.D., Clinical Professor of Laryngology in the University and Bellevue Hospital Medical College, N. Y. City. Bound in cloth, \$2.75 net, in one 12 mo. volume of 536 pages. Illustrated with 92 engravings and 2 colored plates. Published by Lea Bros. & Co., Philadelphia and New York.

This book is especially adapted to the use of students and busy practitioners who desire a concise, conservative, and up-to-date presentation of the subject. The language employed is unusually simple and direct. In describing the methods of examination and of operating upon the nose and throat, the necessity for strict asepsis is emphasized.

The author is to be commended for his broad-mindedness in giving the treatment of diseased conditions. The remedial agents advocated are of the safe and well-proven character, and as stated, he has "selected from among the multiplicity of medicinal and operative measures those which in his judgment are the best."

In so brief a discussion of this rapidly growing subject, much valuable material has of necessity been omitted. No reference to other authors' works are given, no statistics are enumerated and no histories of individual cases are detailed. While this may lessen its value to advanced workers, it enhances its desirability as a text-book and as such we regard it as a welcome addition to the literature of this subject.

**DISEASES OF THE EAR, NOSE, AND THROAT, AND THEIR ACCESSORY CAVITIES.**

By Seth Scott Bishop, M.D., D.C.L., LL.D., Professor of Diseases of

the Nose, Throat, and Ear in the Illinois Medical College; Professor in the Chicago Post-Graduate Medical School and Hospital. Second edition. Thoroughly revised and enlarged. Illustrated with 94 colored lithographs and 216 additional illustrations. Published by the F. A. Davis Co., Philadelphia, New York, and Chicago.

The second edition of this work contains some desirable additions to the first publication. The anatomy of the mastoid region and of the accessory nasal sinuses is demonstrated by well-executed photographic reproductions of bone sections, many actual size. This practical method of instruction is far more forcible and helpful than any unaided description could be.

Two new chapters discuss briefly the "Related Diseases of the Eye and Nose" and "Life Insurance Affected by Diseases of the Ear, Nose, and Throat." It is regretted that a chapter was not also added on the more frequent and important co-relations of the nose, nasopharynx, and the ear. The amount of space allotted to pathology, etiology, symptomatology, and diagnosis of diseases has been too much curtailed in favor of their treatment. The volume is designed and presented as being especially adapted to students, to whom a knowledge of the history and characteristics of each disease is of first importance, and who in learning their treatment would be more benefited by general suggestions regarding the lines of treatment indicated than by the enumeration of an author's favorite remedies.

In the appendix are pertinently shown printed forms for case records, and regional outlines for depicting the locality of disease.

**THE DISEASES OF THE NERVOUS SYSTEM.** By Dr. Ludwig Hirt. Translated by Hoch and Smith; Introduction by Osler. Pp. 715. Illustrations 181. D. Appleton & Co. 1899.

The first American edition of this work was reviewed in this Journal for December, 1893. There has been an increase of 32 pages in the text and of 3 in the number of illustrations, though this does not really represent the amount of revision. It is a good work, though not above many imperfections.

In general the author classifies his descriptions according to pathology rather than clinical types; this is sometimes confusing, as where tubercular, epidemic and other forms of meningitis are mixed up in one account. He also at this point ignores the *diplococcus intracellularis meningitidis*. It is still true that most of the references are to works not usually accessible to American readers, though there is some effort to remedy this. The clinical descriptions are generally excellent, but his therapeutics too often border on the archaic—a combination of qualities that may explain its special appreciation by Osler.

The recommendation of electricity or "gentle massage" in cases of spinal meningitis seems incomprehensible, except after all inflammation has subsided. In Graves' disease he does not indicate the great preponderance of females. In hysteria, he speaks favor-

ably (p. 569) of oöphorectomy—"Whether the ovaries are diseased or not is altogether of minor importance"—a view that we believe has been discarded. Regarding sciatica, he says: "From internal medicines I have never seen any lasting good results;" a strange statement where uric acid or syphilis is so often in play. He recommends "repeated local bleeding from the head" as prophylactic in cerebral embolism!!! For cerebral hemorrhage, he applies cold to the head, sometimes gives stimulants, delays for four to six weeks any medication given with a view to the possible clearing-up of the clot, and ignores a modern German plan of beginning early to get the patient up.

Despite such blemishes as these, it is an excellent treatise, free from padding and irrelevant material and an improvement on the former edition.

WILLIAM BROWNING.

ATLAS OF DISEASES OF THE SKIN, including an Epitome of Pathology and Treatment. By Professor Dr. Franz Mrazek of Vienna. Authorized translation from the German. Edited by Henry W. Stelwagon, M.D., Ph.D., Clinical Professor of Dermatology, Jefferson Med. Coll., Philadelphia; Physician to the Department for Skin Diseases, Howard Hospital; Dermatologist to the Philadelphia Hospital, etc., etc. With 63 colored plates and 39 full-page half-tone illustrations. Philadelphia. W. B. Saunders, 925 Walnut street. 1899.

We find it difficult to classify the above volume in order of dermatological merit, it seems to us to have many excellencies and quite as many defects.

From the great respect we have for its evident care in preparation and its American editors, we believe it would have been well had they been accessories before the fact (the publication of the work) as it were; in which case we believe an infinitely more valuable work, dermatologically speaking, would have been produced. We think it difficult satisfactorily to compress the anatomy, etiology, pathology, and treatment of skin diseases into 200 small well-margined pages. Some of the illustrations are excellent, others not so, being too lurid, and as it seems to us, atypical; the general average being fair.

The work will doubtless always have a place in the library as a volume of reference, but we cannot conscientiously recommend it as a manual on this subject for students, or practitioners of general medicine. To specialists in this branch it will always be useful.

S. SHERWELL.

A PRACTICAL TREATISE ON FRACTURES AND DISLOCATIONS. By Lewis A. Stimson, B.A., M.D., Professor of Surgery in Cornell University Medical College, New York. Surgeon to the New York and Hudson Street Hospitals, etc., etc., etc. Lea Brothers & Co., New York and Philadelphia. 1899.

This is one of the most useful and hence welcome additions to the resources of the every-day, hard-at-work practitioner that has appeared this year. Not since the days when the writings of Professor Frank Hamilton

were fresh and represented the best knowledge upon this subject, has such a practical and altogether useful a work upon fractures and dislocations been placed in the hands of the profession. In 1883 the author's work upon fractures appeared, followed five years later by that upon dislocations. The present volume represents, in one sense, a second edition of these two volumes, although the fact that a large portion has been rewritten and the plan of the work materially altered in respect to classification and arrangement combine to make the book practically a new one. In addition to these changes additions have been introduced, all of which circumstances combine to adapt the book more especially to the needs of the practitioner, particularly in the matter of diagnosis and treatment. The interests of the student in this special branch have not been neglected, in the meanwhile, for proof of which one has only to consult the extensive bibliographic references, which, although a prominent feature of the former volumes, have been largely added to in the present work.

In the portion treating of fractures it has been the special care of the author to bring the subject up to our present knowledge and in this he has succeeded to a large extent. Certain changes in the classification of fractures of the skull have been made, the old division into fractures of the base and vault being abandoned, and that of circumscribed fractures of the vault and fissured fractures with injury of the brain.

Especially to be commended is the author's dictum that the treatment of a fracture should begin when the patient is first seen, and equally important is the warning implied in the statement that this does not necessarily mean that every indication should at once be met by appropriate measures. Emphasis is laid upon the widely varying conditions present in different cases, the necessity for simple protection from further injury at one end of the long and varied series of problems which present themselves on the one hand, while, at the other "the highest resources of his art are required to save life or limb or to preserve function."

The spirit of the work is progressive as shown by the introduction of skiagraphic reproductions of the appearance of some otherwise obscure fractures and dislocations. The teaching is sound and based upon the large experience of the writer. An air of conscientiousness and fidelity to the purposes to be fulfilled in undertaking the task is apparent throughout the volume.

GEORGE RYERSON FOWLER.

APHASIA AND OTHER SPEECH DEFECTS. By H. Charlton Bastian, M.D., etc.  
New York. D. Appleton & Co. Pp. 366, one plate, 31 Figs.

This is an exceptionally fair, logical and excellent work. Though decidedly "substantial" reading, it is generally clear. Perhaps it may best be reviewed by calling attention to special points including a few slight slips.

The author devotes considerable attention to a substantiation of the view that there is a separate center for writing, a view that has since received strong corroboration.

Under the head of Dysarthria, in mentioning the various bulbar and allied causes, he neglects to speak of Asthenic Bulbar Paralysis.

Toxic or functional losses of speech are recognized, though that side of the subject does not interest him as much as its practical importance



might warrant. He however treats somewhat fully of hysterical mutism as distinct from hysterical aphonia.

He uses the term "commissure" in a peculiar sense, *viz.*, in place of association tracts, though in part he uses "internuncial" therefor. He is inclined to recognize the view that the larynx takes part in the act of whispering. Amusing is the typo on p. 185, where he speaks of the supramarginal globule. On p. 168 he says, "The old notion that intelligible speech can be initiated and produced by the influence of Broca's center alone must be absolutely renounced."

To illustrate the various points, 114 cases are given more or less in detail, of which 16 are personal observations. This includes but 50 with autopsy findings, though two of the remainder had been operated and nine are to illustrate the results of teaching. Many moot points can only be settled by necropsies, as the same case without that is now sometimes quoted by one writer one way and by another in opposition.

An excellent schema for examination is given in Chap. XV.

American writers are freely referred to, including our townsmen Shaw and Onuf. The systematic treatise of Collins hardly appeared in time, while Langdon's special monograph is noted. WILLIAM BROWNING.

THE PHYSICIAN'S VISITING LIST FOR 1900. Forty-ninth year of its publication. Philadelphia. P. Blakiston's Sons & Co. Price, \$1.00 to \$2.25, according to number of patients.

This well-known physician's *vade mecum* contains a calendar for 1900 and 1901, tables of signs, metric weights and measures, table for converting apothecaries' weights and measures into grams, dose table in both English and metric systems to correspond with new U. S. P., comparison of thermometers and a new complete table for calculating the period of utero-gestation, besides blank leaves for visiting list, record of births, deaths, etc., etc.

A COMPEND OF THE PRACTICE OF MEDICINE. By Daniel E. Hughes, M.D. Sixth physicians' edition. P. Blakiston's Son & Co. Cloth, \$2.25.

A little 12mo. volume, beautifully bound in flexible covers, with gilt edges and corners rounded off, is this handy book. The whole field of practice of medicine is gone over in 609 pages, and a copious index of 14 pages is appended. It is up-to-date. It is lucid and concise. We are astonished to find so much matter compressed into such a little space.

TUTTLE'S DISEASES OF CHILDREN. A Pocket Text-Book of Diseases of Children. By George M. Tuttle, M.D., Attending Physician to St. Luke's Hospital, Martha Parson's Hospital for Children, and Bethesda Foundling Asylum. St. Louis. Lea Series of Pocket Text-Books.

This work is intended for the beginner in the study of pediatrics. The subject is covered fully and in a concise form. The author states candidly and modestly that he has aimed to present the subject in a systematic and orderly form, without originality. He has been very successful.



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Aloin, 1-8 gr.  
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**CONSTIPATION**, considered as an etiological factor in the production of disease, probably figures more largely than any other cause, hence the treatment of constipation demands attention at the hands of the physician more often than any other malady.

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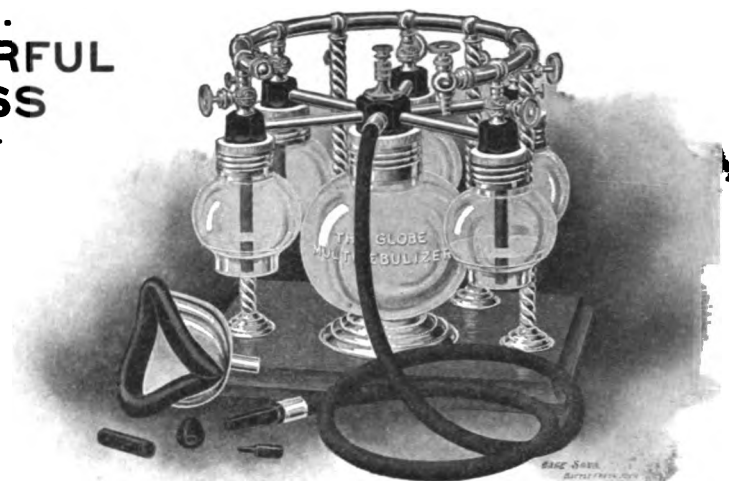
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Cascarin, - - -	gr. $\frac{1}{2}$	Ext. Belladonna, -	gr. 1-32
Podophyllin, -	gr. 1-32		

Specify "Antikamnia LAXATIVE Tablets."

**We believe the profession will at once appreciate the uniqueness and usefulness of this combination.**

In all diseases and affections where pain and fever are present, a laxative is almost invariably indicated. This is especially true in the beginning of the various fevers; in acute throat, bronchial, and lung affections; and especially in the acute illnesses of early life.

Attention is particularly called to the therapeutics of this tablet. One of its ingredients acts especially by increasing intestinal secretion, another by increasing the flow of bile, another by stimulating peristaltic action, and still another by its especial power to unload the colon.

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AND

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EACH TABLET CONTAINS:

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Specify "Antikamnia & Quinine LAXATIVE Tablets."

**To reduce fever, quiet pain, and at the same time administer a gentle laxative and an excellent tonic is to accomplish a great deal with a single tablet.**

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**Pil. Heroin et Terpini Hydratis 1st. Form.**

Schieffelin's.

{ Heroin,	:	:	:	1-24 gr.
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Schieffelin's.

{ Heroin,	:	:	:	1-12 gr.
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The association of heroin with terpin hydrate in the form of our Soluble Pills affords a most agreeable and efficient means of utilizing the combined effects of these remedies in bronchial and pulmonary affections. Under their use the cough is alleviated, expectorations rendered easier, and dyspnoea relieved without unpleasant after-effects.

**Pil. Blaud's Comp. cum Ext. Cannabis Indicae**

(Dr. W. A. Jones).

{ Blaud's Mass,	:	:	:	5 grs.
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{ Acidi Arsenosi,	:	:	:	1-50 gr.
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The above combination (suggested by W. A. Jones, M.D., Minneapolis, Clinical Professor of Nervous and Mental Diseases, University of Minnesota), of reconstitutives, laxative and simple sedatives is indicated in the so-called functional neuroses, neurasthenia, hysteria, and other general nutritional disturbances of the nervous system.

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We do not mention glycerine on the label, yet we believe, with the London *Lancet*, that it is exceedingly valuable, in that it aids in the absorption of fats and retards tissue waste.

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# THE GREAT FACT IN MODERN MEDICINE:

*"The Blood is the Life,"*

*And Where Nature fails to make Good Blood,*

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**BOVININE** is Bovine Blood Unaltered from the Arteries of the Bullock;  
The Universal Auxiliary of Modern Medicine and Surgery,  
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In the more enlightened progress of Modern Medicine, "Blood-letting" has given place to Blood-*getting*.

Aye! Get Good Blood—but How? Not by the Alimentary Process. It has already failed to do its work (else the patient would not be sick); and in acute disease must not even be allowed to do the work it can. Stimulate as you will, the whole sum of the patient's alimentary power when fully forced into play, is unable to keep up the nourishing and supporting contents of the blood. There is absolutely but one thing to do; and, thank God, that can be done, usually with success, as ten-thousand-fold experience has proved. That one thing is this: where Nature fails to PRODUCE good and sufficient Blood, WE CAN INTRODUCE IT from the arteries of the sturdy bullock, by the medium of BOVININE.

The vital activity of this living blood conserve rests on no man's assertion: it speaks for itself, to every properly equipped physician who will test its properties microscopically, physically, or therapeutically.

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**TRY it in *Anæmia***, measuring the increase of red cells and hæmaglobin in the blood as you proceed, together with the improving strength and functions of your patient.

**Try it in *Consumption***, with the same tests from week to week.

**Try it in *Dyspepsia*** or Malnutrition of young or old, and watch the recuperation of the paralysed alimentary powers.

**Try it in *Intestinal*** or gastric irritation, inflammation, or ulceration, that inhibits food itself, and witness the nourishing, supporting and healing work done entirely by absorption, without the slightest functional labor or irritation; even in the most delicate and critical conditions, such as Typhoid Fever and other dangerous gastro-intestinal diseases, Cholera Infantum, Marasmus, Diarrhoea, Dysentery, etc.

**Try it *per rectum***, when the stomach is entirely unavailable or inadequate.

**Try it by *subcutaneous* injection**, when collapse calls for instantaneous blood supply—so much better than blood-dilution!

**Try it on *Chronic Ulceration***, in connection with your antiseptic and stimulating treatment (which affords no nourishment) and prove the certainty and power of topical blood nutrition, abolishing pus, stench, and PAIN, and healing with magical rapidity and *finality*.

**Try it in *Chronic Catarrhal* Diseases**; spraying it on the diseased surfaces, with immediate addition of peroxide of hydrogen; wash off instantly the decomposed exudation, scabs and dead tissue with antiseptic solution (Thiersch's); and then see how the mucous membrane stripped open and clean, will absorb nutrition, vitality and health from intermediate applications of pure bovinine.

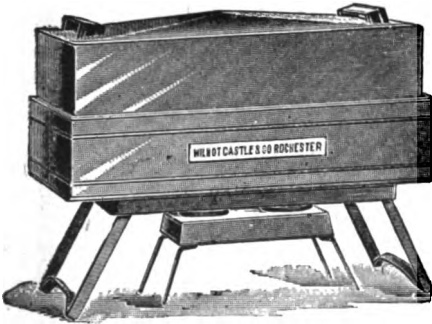
**Try it on the *Diphtheritic Membrane*** itself, by the same process; so keeping the parts clean and unobstructed, washing away the poison, and meanwhile sustaining the strength independently of the impaired alimentary process and of exhaustive stimulants.

**Try it on *anything***, except plethora or unreduced inflammation; but first take time to regulate the secretions and functions.

**Try it on the *patient*** tentatively at first, to see how much and how often, and in what medium, it will prove most acceptable—in water, milk, coffee, wine, grape, lemon or lime juice, broth, etc. A few cases may even have to begin by drops in crushed ice.

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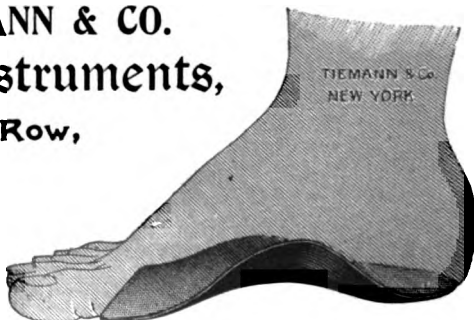
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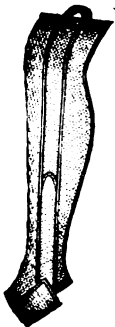
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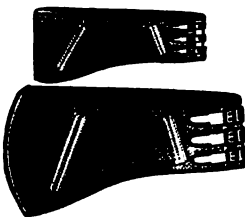
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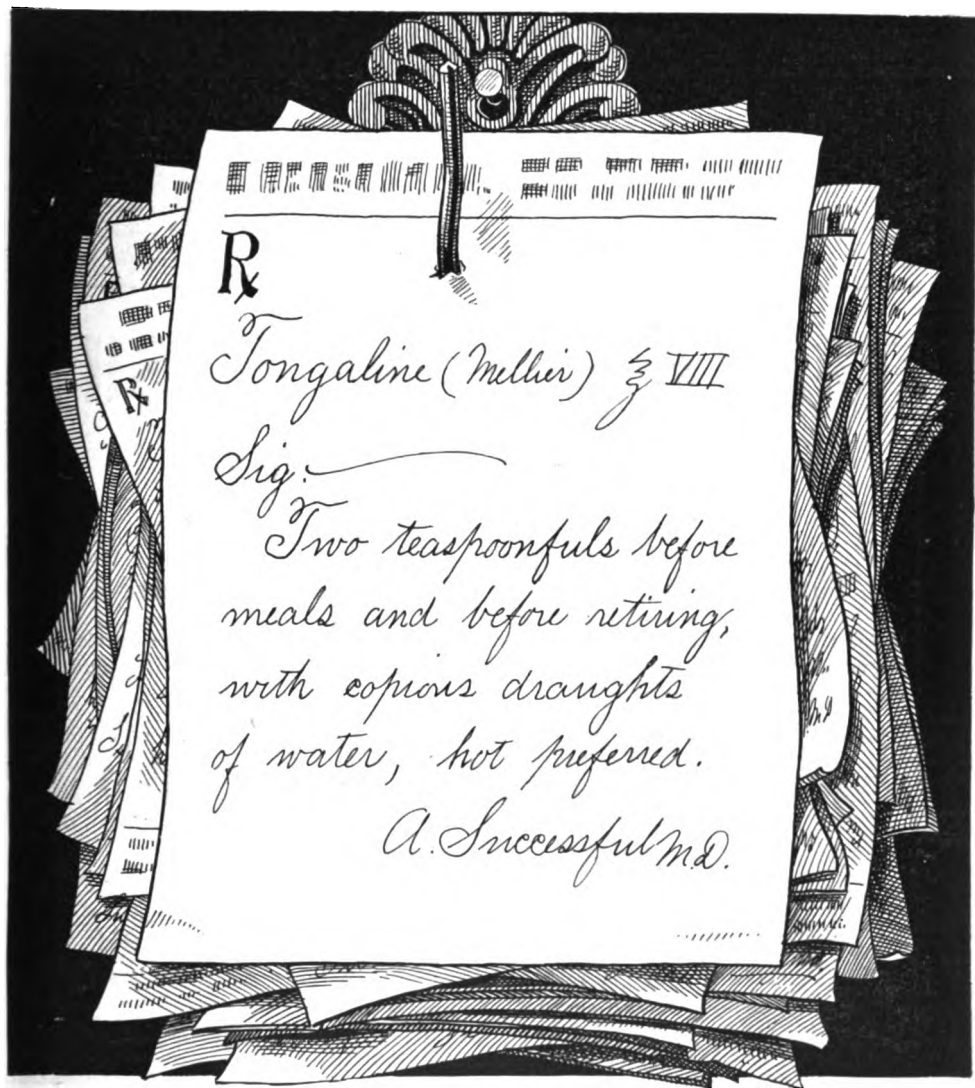
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in life resides in the crimson stream which is constantly pumped through the vascular channels to feed the hungry tissues. How important it is to keep this vital fluid rich in life-giving elements.

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A number of years ago, when the value of Creosote became fully demonstrated, we began the publication of a formula for the administration of Creosote in Maltine. This formula has been employed successfully by thousands of physicians, and we have been urged over and over again to place such a combination upon the market in order that a uniform and properly prepared product could be had under all circumstances.

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Neurasthenia,  
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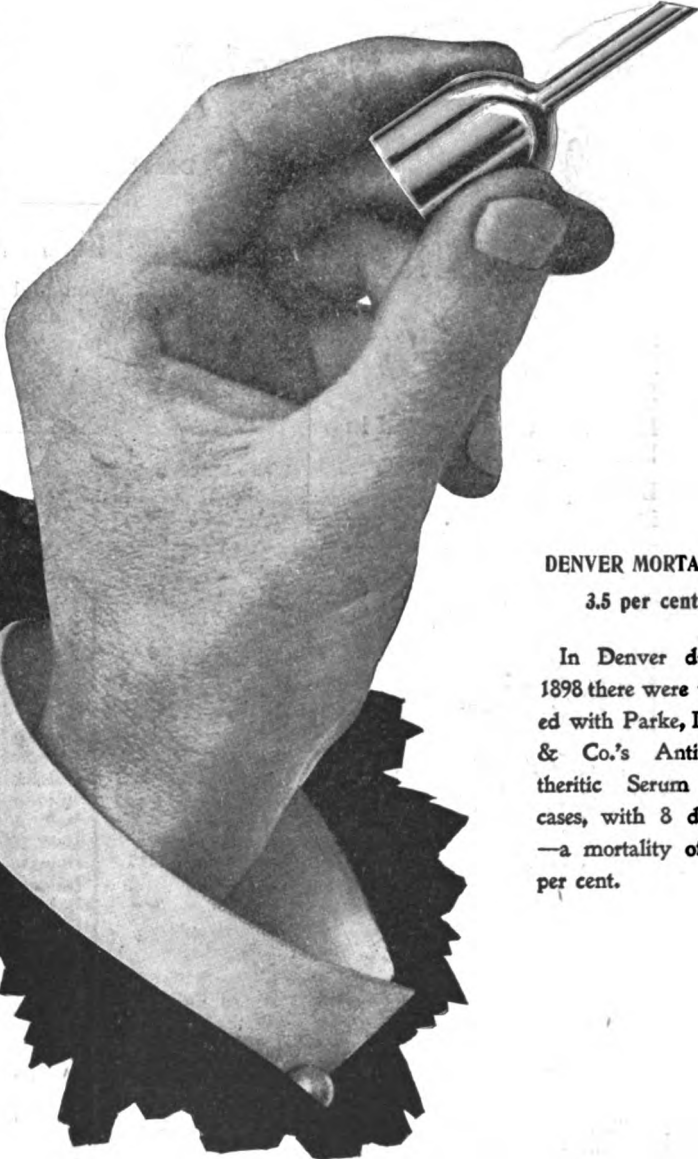
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In Chicago during the months of November and December, 1898, and January and February, 1899, there were treated with Parke, Davis & Co.'s Antidiphtheritic Serum by the Antitoxin Staff of the Chicago Health Department 418 cases (microscopically verified), with 20 deaths—a mortality of 4.78 per cent.



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## Rx Dolomol-Ichthyol 10%

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**Dusting Powders,  
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and literature of the  
complete list.

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skin, shed moisture and are of  
Definite Medication.**

These DOLOMOL COMPOUNDS consist of a perfectly bland, neutral, impalpable powder base (stearo-palmitate of Calcium and Magnesium) and a definite stated percentage of medicament.

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## Waterproof Baby Powder.

It is Dolomol without medication.  
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The Latest and Best

## HORSELESS CARRIAGE

Combines all requirements for an ideal and practical pleasure or business vehicle. No better will be made. Time cannot improve it.

The motive power is known and understood the world over—is no experiment, but is always reliable and under perfect control. The "Locomobile" is unsurpassed for speed, hill climbing (easily ascended Mt. Washington, altitude 6300 feet), or travelling over bad roads. It has proved as fast as an express train, will follow the slowest truck, or stop immediately. No noise, jar, or odor. It has been repeatedly operated for  $\frac{1}{4}$  cent per mile, and the power can be renewed at even the smallest village. The weight, complete, is but 400 pounds, yet the "Locomobile" is graceful and attractive, and the running parts strong and durable.

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IN DISEASES OF THE RESPIRATORY SYSTEM,  
IN DISEASES OF THE DIGESTIVE SYSTEM,  
IN DISEASES OF THE EYE AND EAR,  
IN MALARIAL, TYPHOID AND ERUPTIVE FEVERS,  
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and in the general antiseptic treatment of disease of every character, Listerine has established an enviable reputation, thorough clinical test having demonstrated that no other one antiseptic is so well adapted to the general requirements of the Physician and Surgeon, for both internal and external use, as this carefully-prepared formula of essential oils, ozoniferous ethers, and benzo-boracic acid—all antiseptics and chemically compatible.

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IT DISINTEGRATES AND ELIMINATES CALCULI OF THE KIDNEY OR BLADDER, URIC ACID, PHOSPHATIC, OR OXALIC.

By John V. Shoemaker, M.D., LL.D., *Professor of Materia Medica and Therapeutics in the Medico-Chirurgical College of Philadelphia, etc.*, in the N. Y. Med. Journal, of July 22, 1899: "The BUFFALO LITHIA WATER is doubly efficient in rheumatism and gout. It dissolves uric acid and phosphatic sediments as well as other products difficult of elimination, while at the same time it exerts a moderately stimulant effect upon the renal cells, and thereby facilitates the swift removal of insoluble materials from the body. Without such action insoluble substances will precipitate in the kidneys and bladder. The intense suffering produced by stone, together with consecutive pyelitis and cystitis, are avoided by prompt elimination. Unquestionably, although the speedy removal of uric acid and other products of faulty tissue change is of conspicuous benefit, yet to prevent their formation is a service still more important. This service is performed by the BUFFALO LITHIA WATER when it corrects those digestive failures which are responsible for the production of deleterious materials."

Dr. J. W. Mallet, *Professor of Chemistry, University of Virginia*: Extract from report of analysis of Calculi discharged by patients under the action of BUFFALO LITHIA WATER, Spring No. 2.

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DIRECTIONS FOR MEASUREMENT.

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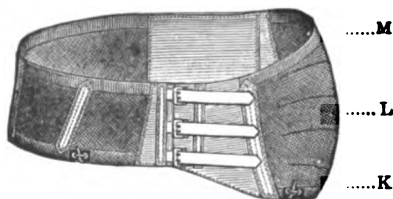


Fig. 1.

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FOR ALBUMINURIA AND CHRONIC BRIGHT'S DISEASE.

**Samuel O. L. Potter, A.M., M.D., M.R.C.P.,** *London, Professor of the Principles and Practice of Medicine in the College of Physicians and Surgeons, San Francisco, a recognized authority wherever medical science is known, in his handbook of Pharmacy, Materia Medica and Therapeutics, under head of ALBUMINURIA, page 600, 7th edition, in the citation of remedies, says:* **BUFFALO LITHIA WATER** *of Virginia, is highly recommended."*

*Under head of CHRONIC BRIGHT'S DISEASE, page 601, same edition, in the citation of remedies, he says: "Mineral Waters, especially the* **BUFFALO LITHIA WATER** *of Virginia, which has many advocates."*

**Dr. Alfred L. Loomis,** *late Professor of Pathology and Practical Medicine in the Medical Department of the University of New York, wrote: "For the past four years I have used Buffalo Lithia Water in the treatment of Chronic Bright's Disease of the Kidneys, occurring in Gouty and Rheumatic subjects with marked benefit."*

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A Scientific Blending of True Santal and Saw Palmetto in a Pleasant Aromatic Vehicle.

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*Sodium Salicylate*, 3 iiss.

*M. ft. Chart No. X.*

*Sig. take one every two hours.*

Doctor, why not give it a trial? 

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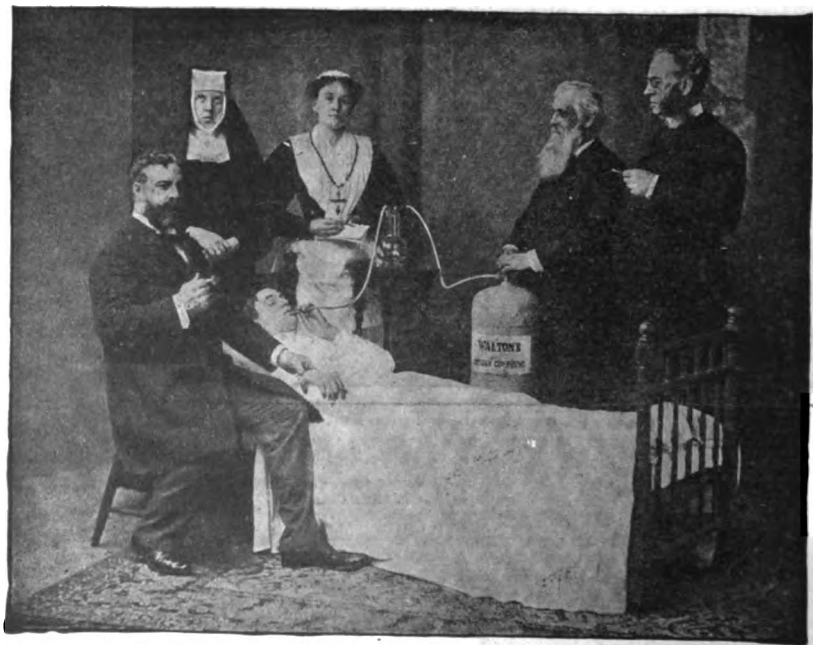
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**A Therapeutic Recourse of Wide Application.**

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*Literature on application.*

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**For Excoriations from Sum-  
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PULVOLA, the Unmed-  
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**DOLOMOL-ACID CARBOLIC 5%.**  
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# "ARDENDALE"

*See Advertisement Page 9.*

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*Session of 1899-1900, beginning October 3, 1899.*



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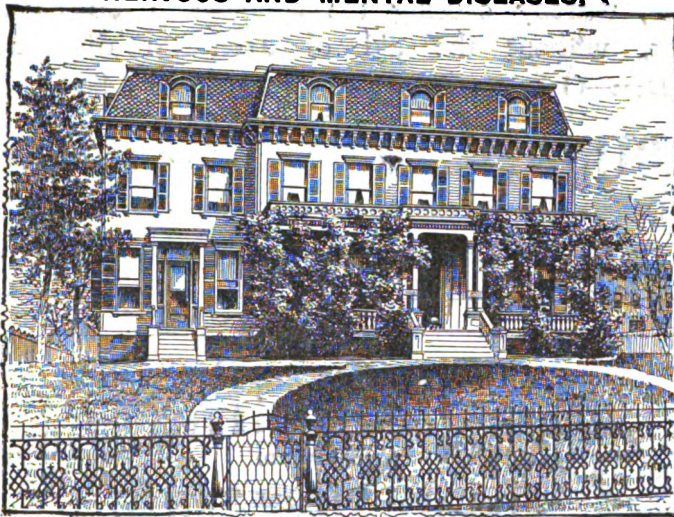
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